

COMPUTERWORLD

THE NEWSWEEKLY FOR THE COMPUTER COMMUNITY

Weekly Newspaper — Second-class postage paid at Chicago, Illinois

Vol. V No. 32

August 11, 1971

Price: \$9/year

DP Pioneers Honored

'Technology' Questioned; ACMers Stress Service

By Thomas J. Morton
CW Staff Writer

CHICAGO — The elders of the DP community were feted here on the occasion of the computer's 25th birthday last week.

ACM '71 attendees concluded that acceptance of the computer is growing exponentially, more than the wildest dreams of the DP innovators of

the recent and distant past, and the same holds true for the technology itself.

While some felt the future will see an acceleration of this trend, others paused to question the nature of technology *per se*. "Let's sell the service of computers, not the technology," they said.

Members of the Association for

Computing Machinery (ACM) want their organization to spend less time on technology and more on improving both the quality of information handling within the industry, and on the improvement of the image of the industry and of the computer outside the DP community.

Budgets a Problem

"Budgets are a main concern to the average DP manager," says a local ACM member told CW at last week's annual conference here. "Highly technological achievements developed on grants and research funds are not what we need right now... unless they are significant management tools."

Domination of ACM by the educational community is not doing the association harm, but it is not helping "contribute to [ACM's] membership effectively in some particularly trying times," a Philadelphia ACMer said.

Panels at the look-back/look-ahead sessions agreed the computer had some problems, and one even suggested

computers gave no significant competitive advantage to users.

While the "official" attendance count varied depending upon who was asked, the ACM-anticipated 1,000 registrants came to Chicago, bringing with them enough to have the turnout called a success.

"We're getting good turnouts at the session," a spokesman said, "and both the speakers and the registrants seem pleased with the technical program.

The speakers with the attendance, the registrants with the material being presented."

Most seemed pleased with the sessions, many had just attended and most noted that the tone of the speakers was different from previous years.

"There was no 'blue sky' this year," said one ACMer from Detroit.

A panelist said that she "got the feeling that our [computer industry] troubles are not close to being over. The brazen optimism of two and three years ago is gone."

At the ATM, from a west coast chapter, said, "I learned something here today that pays for my trip as far as I'm concerned." He was interviewed on leaving a single-paper session on user-oriented systems design.

Service to Man

ACM itself stressed the computer's "Service to Man" with its special events program.

Computer generated art held a prominent place in the exhibit area, as did computer generated music. The exhibit themselves are a total of 10 booths, including ACM's own demonstration, accurate to ACM's specifications, computing equipment, systems, and the people who work with them enrich and extend our lives."

The city of Chicago displayed

its center's operations in a booth with the theme "Getting it all together." Named "The mayor's data center," it was run by Mayor Daley and his vice-mayor on centralized and effective data processing, according to a city official at the booth — the center serves over 25 city departments, and through them the people of the city.

(More ACM on Page 2)

Australia Has DP Job Needs At All Levels

By Edward J. Bride
CW Staff Writer

WASHINGTON, D.C. — The Australian Embassy said there's a shortage of computer people "down under."

Although not specific about the number of jobs available, an embassy spokesman told CW last week he was having "no difficulty placing Americans in DP units in Australia."

While there is no list, a need exists for all levels of programmers, operators, and managers, the spokesman stated. An official explained the absence of a job listing: "We do things the other way. People interested in finding a job usually send us their job history or resume, and we forward it to the Ministry of Labor."

Applicants are then informed of any success, and could proceed to emigrate if they so chose.

As occurs with many countries, skilled workers are otherwise unemployable. Australia provides travel assistance to those willing to settle in the country for at least two years.

The Travel Assistance Program provides up to \$1,000 to each member of the family (youngsters on a pro-rated basis if they qualify for reduced rates), and about 55% of the immigrants utilize it, the official noted.

The Australian Computer Society (ACS) and the most pressing needs were for experienced data processing people, "especially those with two or more years" in large-scale computers, he said.

The largest DP employer in Australia is the government, which has large-scale installations in Canberra (the commonwealth's capital), Sydney, Melbourne, and Perth.

(Continued on Page 4)



Computer users David R. Scott, left, and James B. Irwin were too busy last week to think much about the computer's 25th birthday. But they gave a good deal of thought to the computerized transportation, life-support, and communications systems on which their lives depended. (Wide World Photo).

IBM Field-Developed Programs Offered for 'One-Time' Charge

By Don Leavitt

CW Staff Writer

WHITE PLAINS, N.Y. — IBM has a new class of software, made up of semi-supported, specialized application programs designed for a "one-time" charge.

Unlike Program Products developed centrally to meet needs of many users, these Field Developed Programs, offered by IBM branch office personnel to meet the needs of small but identifiable groups of users, a company spokesman ex-

plained.

Users obtain the FDPs under IBM's normal licensing contract, which covers only for the first 12 consecutive months. After that, the terms of the agreement remain in force but charges are waived, regardless of how long the program is used.

There is no initial installation charge for these packages. IBM conducts "workshops" for each of the FDPs, at IBM-designated

locations. Users are charged a fee to attend these training sessions, which are usually two days long.

IBM charges a "one-time" programming support fee, then annually for IBM's standard Program Products. No corrected or enhanced versions of the packages are distributed as a matter of course.

IBM distributes any "error correction information" pertinent to an FDP, but only for the

(Continued on Page 2)

2,210 Char/Sec for \$1,865/Mo

CDC Line Reader Uses Laser

By Michael Merrill
CW Staff Writer

MINNEAPOLIS, Minn. — The 921 optical character reader from Control Data Corp. uses a high-speed laser to drive a system that reads 1,200 documents/min and costs \$1,865/mo on a one-year lease.

The system configuration includes the reader, reader controller — a 4K by 8 bit min — a teletypewriter, and a 7-track, 200 ft./tape drive disk controller.

The unit can read data fields up to 80 characters,

depending on font, at speeds up to 2,210 char/sec.

It is designed for single-line documents, rather

than pages.

Up to three fonts are available on the machine: Ansi OCR-A, sizes I and IV, Farrington '78, and ISO OCR-B, size I. Documents can range in length from 4.5- to 9 in., and in width from 2.6- to 4.5 in.

There aren't many line-oriented optical character readers in this price-performance range. Optical Scanning Corp.'s 2888 reads 375 to 1,000 document/min with 70 char/document and costs \$1,949/mo. The unit can decipher hand printing.

Univac's 2703, running on-line to a 9000 series computer, can read about 300 or 600 document/min and costs from \$1,050/mo to \$1,600/mo.

(Continued on Page 4)

On the Inside

Package Tunes
OS Supervisor

— Page 13

Users Urge FCC
To Block AT&T Tariff

— Page 19

Communications 19
Computer Industry 25
Editorial 8
Financial 30
Societies 18
Software/Services 13
Systems/Peripherals 15

Eniac to 2001: 'Economic Payoff' and 90% Overhead?

By Alan Dratfield

Of the CW Staff

CHICAGO — The past 25 years brought acceptance of the computer beyond the corporate and research to the most enthusiastic pioneers. And for users, the future looks even brighter.

Many of the promises of the 1960s are expected to be realized in the decades ahead following the near-stall caused by the current economic recession. A CIO Computer Management consultant took a self-critical look back at the first 25 years since Eniac and warily viewed the next 25, which brings us to the threshold of the 21st Century.

Ahead, according to the consultant, are significant advances in the use of computers in business applications, and management lessons learned from the past quarter century will be applied in the next 25 years. The people problem will also be tempered.

Cautious in their prognostica-

tions, the consultants foresee less chaotic change than that which epitomized the most recent decade.

According to William J. Osterman, director of products and market planning, Auerbach Information Services, three major influences will shape the future course of computer technology. They include the continuing economic maturity of the industry and the user community. The economic payoff has become the byword of our industry," he said.

Other Influences

Other influences are the potential to achieve significant price/performance ratios and the opportunity to bring EDP technology to new application areas such as urban transportation, pollution, hospitals and even into private homes.

Frederic G. Withington, senior staff associate, Arthur D. Little Inc., predicted that users might

"cheerfully (accept) software overhead exceeding 90% as the price willingly paid for a degree of adaptability, flexibility and reliability that would be incredible today."

He forecasted that mass storage devices and wide band digital communication facilities would "add their dashes of color to the picture of the future" and stated that the data processing industry could well become more like the food industry, where economies of scale for mass products through automated agriculture and supermarket networks, but also providing a rich variety of specialty food and services..."

Discussing business applications, Mortimer Rogoff, executive vice-president of the Diebold Group, said computers in the past limited themselves on applications and the user has had to adapt to the restrictions of the computer. He cited the examples of the airlines reservations system, the language prob-

lem and the financial executive who finds "discomfort" in dealing with his "electronic colleague."

Rogoff iterated a question asked by a panelist: "Why can't I just talk or write to the machine?" The user, he said, "has been compromised because the computer's capabilities have continued to force language developments that remain restrictive from the human viewpoint." In response, Osterman said Rogoff "can look forward to much greater hardware capability the programmer must take advantage of." He anticipates penetration of the language barrier "by employing hardware language processors and translators that understand normal languages, so the user is at ease as he communicates with the processor, and the processor takes on the burden of translating into machine usage language."

Increased complexity of hardware, added Rogoff, will require a systems designer and system programmer, as well as the applications programmer, new ability to solve problems."

Harvey Golub, a principal with McCormick & Co., said that the past has taught that "as valuable as computers are they cannot...be relied upon for a leadership, innovative leadership. They cannot provide (a user) a major competitive edge."

In the next century he sees the computer more intimately tied to the overall management process "becoming a more integral part of top management decision making." He foresees new organizational forms being developed.

Joseph F. Horner, director of the electronic industries program for Stanford Research Institute, said that the profile of computer

users will change at a moderate pace over the present decade, but that those having little or no experience with EDP will seek to buy a complete solution to a problem rather than a collection of hardware. And a second type of user will also become important in the 70's: the production factory manager and staff.

"Beginning in the latter part of the 1970's," Horner continued, "still other kinds of users will be added to the computer user profile in large numbers. New service businesses and institutional customers such as health care facilities, schools and libraries will become important segments of the EDP marketplace."

Harvey L. Popped, vice-president of Bois, Allen & Hamilton Inc., looked at people. He said that personnel costs are stabilizing and that the quality of work is higher. "People supply," he added, "is approaching demand."

The past 25 years, overall, came in for some sharp criticism from the consultants.

In a typical assessment, Osterman said that we have "flipped up for you to the problems of an input/output bottleneck" and a commitment to "yielding innovation and change in the computer field has been an all too frequent failure to fully anticipate the technical and economic consequences of a given innovation or development."

And what about the described tongue-in-cheek life cycle of a system development project going through six phases: wild enthusiasm, disillusionment, total confusion, search for the guilty, punishment of the innocents and promotion of non-participants?

Torch of Progress Passed at ACM; 'Highly Creative Are the Young'

CHICAGO — The computer industry paused here last week in its relentless progress to mark the 25th anniversary of the electronic computer and to hand the challenging promise of the future to the younger generation.

At a dinner commemorating the birth of Eniac, the world's first electronic computer, co-inventors J. Presper Eckert and John Mauchly, were singled out for their historic contribution,

Robert E. McDonald, president of Univac, which hosted the dinner, said that "history tells us that highly creative people in this world are the young people."

Eckert, he said, was in his twenties and Mauchly in his thirties when they developed Eniac, and then on to Develop Iuvac. I. The creative insight that people fundamentally changes the human condition are in the province of the young," added McDonald, challenging the younger generation "to help solve the problems that exist."

McDonald said that the dinner was intended "not only to commemorate the past but also to give due recognition to the future." In the spirit of achievement, Univac has established the Grace Murray Hopper award to recognize the promise of future achievement."

The award, to be made once a year to a young member of the computer community, this year went to Dr. Daniel E. Knuth, a professor of computer science at Stanford University.

The award is named for Commander Grace M. Hopper, (USNR, Ret.), one of the pioneers of the industry who has been described as a "woman ahead of her time" by some of her admirers.

DPers See Professionalism

CHICAGO — In "The Impact of Professionalization efforts on the computer manager," an ACM panel discussed the growth of the computer professional and his claim for recognition. Chairman Malcolm H. Gotter

of Pennsylvania State University, named two conditions that had to be met for professionalization to be meaningful to the computer specialist:

"A means for certifying the professional competence of the

first six months after general release of the package. After that, support ceases."

'About 24' Available

There are currently "about 24" FDPs available, according to IBM, and they cover nearly as wide a range of hardware configurations as do applications. The latest releases, for example, are a S/3 package for brokerage houses and an 1800 package for medical history recording.

The Disk Brokerage Accounting System is used to control the accounting details of "several hundred" trades a day, including the printing of confirmations, blotters and journals. It requires a 16K system and costs \$350/mo for the first 12 months.

With the Computer-Assisted

Medical Examination System, patients use a light pen and 2760 optical image terminal to enter their history and basic data into files on an 1800. Test results can be entered directly by lab personnel. This system requires 32K words of storage, and costs \$24,000/mo.

Other FDPs previously released include a public utility financial planning system that operates on a model 25 or larger 360, with 48K core and two disks. This goes for \$440/mo for the user's first year.

A composition system for print shops runs on an 1130 and can be licensed for \$1,000/mo. This FDP is more flexible than most. It includes scheduling routines that could be adapted for use in other commercial job shops, an IBM spokesman said.

Evading Them

individual must be developed; and there must be meaningful acceptance, by both the individual and those for whom he works, of his responsibilities and obligations." But he added that he didn't see that taking place in the near future.

Heaperns pointed out the first, panelist Paul C. Notari of the Association of Computer Programmers and Analysts said the placing of control of a corporation's most vital records and functions into the hands of un-disciplined amateurs was quite like giving a child an axe. "Either," he said, "counced discipline or a rampart."

He said that a "rampant" non-professional attitude of programmers and analysts existed and that management had become alienated by that attitude... even though they had partially caused it by too quickly handing off to the "computer machine" everyone from accountants to truck drivers. He said management has reacted to the lack of professionalism by EDP with fear, distrust and disbelief. When EDP personnel begin to live up to professional standards, management attitudes will change, he added.

CHECK HERE TO ENTER YOUR SUBSCRIPTION

1 year — \$9* Payment enclosed New subscription
 3 years — \$20* Bill me Change of address

*Add \$1 per year for Canada.
Other foreign rates on request.

D1219a

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

□

DP Helps Rescue Shock Victims

ALBANY, N.Y. — Seventy victims of severe injury have been saved from immediate death from traumatic shock at Albany Medical Center because a team of physicians, college engineering professors, and computer scientists has found a way to predict and prevent respiratory failure.

The method combines electronic detection, high-speed computer analysis, and timely medical care to prevent patients from sinking into the irreversible "post-traumatic pulmonary distress syndrome" or shock lung that usually causes death within 15 days of injury. Patients have been treated in a specially equipped "trauma research room" at the medical center. The accident injuries involved severed limbs, internal lacerations, and head wounds.

Electronic equipment in the one-bed room is used to make periodic checks of heart beat, blood pressure and lung capacity. It was developed by biomedical engineering professor Dr. Harry Rensselaer Polytechnic Institute (RPI) of Troy, N.Y.

This information is then relayed to a time-sharing computer at the General Electric research and development center in Schenectady. After it is stored in memory it is processed and analyzed, and the results returned to the bedside physician within minutes.

Physician Alerted

The physician is thus alerted to the symptoms of impending disaster in time to take preventive measures to save the patient's life. Treatment includes intravenous fluids and artificial ventilation of the lungs.

Programs developed and written for the trauma research project permit the computer to calculate as many as 20 simultaneous physiological functions.

"The combination of measurements, computer analysis, and timely medical attention has led to virtual elimination of death from the posttraumatic form of the pulmonary distress syndrome," said Dr. Samuel R. Powers, professor of surgery at Albany Medical Center and attending surgeon at the medical center.

Very little was known about this syndrome or the methods of treatment when the project was started three-and-a-half years ago.

Dr. Powers conceived the joint program and worked together with the medical, university, and industry team to do the job. He estimates that some 100 patients have been treated in the trauma research room. "Each was so severely injured that survival was questionable," he explained. "Yet the great majority survived."

The Albany Medical Center was one of the pioneers in computerized medicine. Nine projects in this field are currently underway with the sponsorship of the National Institute of General Medical Sciences, one of the Federal Government's National Institutes of Health. The Albany project is funded at approximately \$150,000 annually by the N.I.M.S.

Although tremendous progress has been made, some problems remain. For example, data collection and analysis were done on a time-sharing computer at the GE research and development center, but a special analog-to-digital converter was required. Most commercial time-sharing computers do not have this feature.

Neither the equipment nor the computer programs available when the project originated. They were designed or modified to fit the need through the joint efforts of the medical center staff, the RPI faculty, and GE scientists.

Computer Compiles Water Laws

BOISE, Idaho — A search by the University of Pittsburgh's computer on Idaho state law, memoranda, decisions, and legislation has resulted in a book published by the Idaho Department of Water Administration. The \$10 volume contains all Idaho water laws and regulations of the water department.



Checking computer flow chart are surgeon Dr. Samuel R. Powers, GE biomedical engineering professor. The men are members of a team at the Albany Medical Center which has saved 70 victims of severe injury from possible death from trauma, or shock. When interpreted, the symbols signal onslaught of respiratory failure that usually causes death within two to 15 days after critical injuries.

Park Computer?

CHICAGO, Ill. — Would you believe there's a computer-in-the-park?

At Chicago's Museum of Science and Industry a computer owned by the Chicago Park District has been set up in a simulated atmosphere of trees, grass and picnic benches.

The computer, a Unisys 6000 system, is not only an educational exhibit sponsored by the park district and Unisys for visitors to the museum, but also performs DP chores for the park district.

While visitors peer through the glass enclosure to the exhibit and listen to a recorded commentary, the computer keeps track of all the equipment and services needed to maintain 500 parks and many ball fields, swimming pools, gymnasiums and bandstands in the district's jurisdiction.

It also helps control the district's purchasing and budgets.

MetaCOBOL delivers what COBOL only promises.

In 1960 ADR participated in building the industry's first Cobol Compiler. In 1970, after observing programmers struggle with Cobol's shortcomings for 10 years, ADR introduced MetaCOBOL. The software designed to make Cobol's decode-only promises finally come true. MetaCOBOL is the most comprehensive and easy-to-use Cobol system available today.

FACT 1

CODING

When writing Cobol programs, MetaCOBOL has the most comprehensive Cobol macro facility available. One that provides complete freedom to produce your own verbs, macros and abbreviations; ADR-supplied macros, including new Cobol verbs, abbreviations, analysis macros, plus Documentation macros and Report Generator macros; and many more features.

FACT 2

TESTING

When preparing test data, MetaCOBOL provides comprehensive data at a minimum of programmer effort. MetaCOBOL also performs Syntax Checking and can generate ICL statements.

FACT 3

STANDARDIZATION

MetaCOBOL lets you establish and enforce your Cobol implementation and installation standards.

FACT 4

DEBUGGING

When debugging Cobol programs, MetaCOBOL offers the most significant advances ever designed. These include all output in source language format. Selected trace on abnormal termination. Continued execution on abnormal termination. List of unexecuted paragraphs. And a frequency count of executed paragraphs.

FACT 5

EVALUATING

When evaluating the performance of your Cobol program, MetaCOBOL is the only system that can perform this function at the source level and during execution.

FACT 6

CONVERSION

When converting from DOS or OS to ANSI-level Cobol, or either to, or from, any manufacturer's Cobol system and /360, MetaCOBOL provides the most complete, single-pass conversion available.

Get the whole story about overcoming Cobol's shortcomings with MetaCOBOL. Find out how MetaCOBOL can bring immediate user benefit to your Cobol installation. MetaCOBOL is now available on a month-to-month basis, as well as on a permanent license. MetaCOBOL delivers what Cobol only promises. Call on ADR office today. Write in MetaCOBOL tomorrow.

Or use this coupon:

Applied Data Research, Inc. Route 208 Center Princeton, N.J. 08540	
Please send me more information on MetaCOBOL.	
I'd like to see a presentation on MetaCOBOL. Please call me for an appointment.	
NAME _____	TITLE _____
COMPANY _____	ADDRESS _____
CITY _____	STATE _____
TELEPHONE _____	ZIP _____



APPLIED DATA RESEARCH THE SOFTWARE BUILDERS

Call your nearest ADR office:
 Atlanta 404-233-3087/Boston 617-246-0167/Chicago 312-692-7153/Cleveland 216-331-1606/Dallas 214-638-3890/
 Hartford 203-643-1597/Houston 713-526-3188/Kansas City 816-753-5372/Los Angeles 213-826-5527/
 New York 212-986-4050/Pittsburgh 412-391-3439/Rochester 716-242-0000/San Francisco 415-961-0000/
 Seattle 206-467-3184/St. Louis 314-993-7050/Tampa 813-628-9900/Portland 503-226-3898/
 Boston 617-242-0021/Milano 86-08-07/Oslo 41-57-79/Paris 533-57-20/Stockholm 60-86-11/Tokyo 42-1291/Toronto 416-362-7681/
 London 01-242-0021/Princeton, New Jersey 08540/Telephone 509-921-8550

Voice Uses Add to Phone Study

By Ronald A. Frank
CW Technical News Editor

SAN FRANCISCO — A statewide investigation of whether data users overload the telephone network was expanded last week to include certain voice communications.

An apparent shift by the Public Utilities Commission (PUC) staff led to a recommendation last week that additional "unusual business usage" such as "poll taking, credit checking, recorded announcements, and other services" should also be examined.

The staff report, however, said that telephone lines studied in the Palo Alto area were "seriously overloaded due to computer access lines." This charge together with a recommendation for an intransit measured taxi meter rate only on data lines led to a postponement from data users and forced a postponement of planned hearings [CW, March 17].

The hearings were further deferred last week when the PUC ordered the formation of a study committee to examine heavy telephone use by both voice and non-voice customers.

The original staff report cited studies early in 1970 that reportedly showed computer access lines "often have 10 times the usage of regular business lines."

In line with the staff shift away from singling out data users, a

Pacific Telephone & Telegraph spokesman said last week, "We are now satisfied that data demands were not at the root of the Palo Alto service problems in 1970."

The PUC-appointed committee will include representatives from the phone industry, large business users of data and other phone services and PUC staff

members.

Several DP firms have told the commission they would serve on the committee and major firms such as IBM and Xerox have indicated they would be represented before the study group.

A report on the committee's findings is scheduled to be presented to the PUC on December 8.

Honeywell Jumps Prices

Hot on the heels of IBM [CW, Aug 4], Honeywell Information Systems and Univac have raised hardware prices, becoming the second and third dwarves to do so.

The first was RCA, which was so hot on IBM's heels that it preceeded the Colossus by three months.

Honeywell is raising rental rates on most CPUs and peripherals by 4%, and rentals in 6000 series and 105 model CPUs will go up 6%. Monthly charges on the 1015, 105, 115/2 and data preparation peripherals such as key-to-tape devices, will not be changed.

Purchase prices of the 6000 series CPUs will rise 6%, and purchase prices of the 105 CPU will go up 5%.

Maintenance for most units will be boosted 7.5%.

Univac raised purchase and rentals on selected processors and peripherals by 5%, and maintenance on almost all products by 7%. There were no purchase or rental increases for communications terminals for the 1700 series of data preparation devices, however.

Univac also reduced purchase and rental on the 8414 disk drive, and pointed out that installations using a number of the drives might experience no increase in system costs. The 8414 is available for all 9000 and 1100 series systems.

Both Honeywell and Univac laid the increases to rising costs of doing business.

Aussie DP Jobs Revealed

(Continued from Page 1)

bourse and other state capitals.

Permanent appointments in the Commonwealth Public Service, however, is generally open only to British citizens. Others may obtain long-term "temporary" employment, but retirement benefits are not included.

The embassy indicated terms of government employment may be changing, however, after about two years' allegiance to the Queen, ACS reported, thereby renouncing citizenship of their original country.

Another big computer user is the Commonwealth Scientific and Industrial Research Organization, which last year listed procurement requirements of CDC 3200, DEC PDP-8s and 15s, Hewlett-Packard 2114As, NCRs, Novas, and others.

The research organization is independent of the government in staffing, and has no restrictions on nationality. Its demands are mainly for highly qualified graduates to work in computing research, numerical analysis and consulting tasks for scientific computer users, ACS said.

Academic vacancies exist at several universities, according to the embassy.

Saleable DP people vary considerably depending on experience and qualifications. While about two-thirds of the DP field make between \$4,000

and \$7,000 a year, ACS said the Australian dollar is worth more than the U.S. dollar.

While some people use a formula of multiplying an Australian salary by 1.5 or 2 to obtain an equivalent U.S. salary, ACS cautioned this should not be taken as "more than a guideline."

ACS said 35% to 55% of Australians engaged in systems and programming belong to the social sciences.

Nearly all U.S. manufacturers have users in Australia, and most of them also maintain support for marketing, customer service, support, and software.

U.S. computer companies "down under," ACS noted, are IBM, Honeywell, NCR, DEC, Burroughs, CDC, GE, plus England's ICL.

The society suggested that the manufacturers' in-country branches might be able to advise if some of their clients are currently seeking staff with prior experience in the use of particular computer equipment.

The Embassy said regional consultative would provide additional information. Parties were informed to consult telephone directories in San Francisco or New York for those companies, the Embassy said if the client will.

Additional consultants will be opened before October in Chicago and Los Angeles, the of- fice related.

CDC Reader Uses

(Continued from Page 1)

The beam from a 1 MW continuous laser, operating at 6,234 Å, is focused through a beam expander and aperture to insure uniform intensity across the beam and to the scanning mirror.

The mirror directs 95% of the beam's light onto the document, reading the characters by col-

Laser, Mirror

umn scanning. The mirror spins at 4 kHz, giving 68,000 column scans a second.

The laser reader can interpret interpreted digital print well, CDC said. Output is placed on magnetic tape.

Purchase price for the system is \$24,500.

News Wrapup

RCA Delivers 2s on Schedule

MARLBORO, Mass. — Deliveries of RCA's new series of computers have begun on schedule with installations of RCA 2s at Reader's Digest Inc., Pleasantville, N.Y., and the southern region marketing sales office of Gulf Oil Co. in Atlanta.

When RCA announced in late September it said deliveries would start the third quarter of this year, Reader's Digest is using its system to control peripherals used in addressing bills and other documents. Gulf will use its RCA 2 for sales analysis, inventory control and general accounting applications.

NAS Names 14 to Computer Science Board

WASHINGTON, D.C. — Fourteen new members have been appointed to the Computer Science and Engineering Board of the National Academy of Sciences. They are: Stephen Ailes, Lewis S. Bostick, Howard C. Fernandes, Harvey C. Chapman, Guy C. Cobb, Hugh Donaghy, D. Brainerd Holmes, Wayne D. Holzman, Cecil E. Leith Jr., Donald A. Lindberg, Max V. Mathews, George A. Miller, and Robert J. O'Keefe.

The board members discuss the general status of the field and analyze current activities and future priorities in areas of education, research and development, national programs, and compilation of data.

Disk File Pioneer Retires From IBM

LOS GATOS, Calif. — Reynold B. Johnson, leader of the initial disk file development effort, has retired from IBM.

Johnson began work on direct access storage products in 1952 when he established IBM's San Jose laboratory. The firm's first disk file product was the IBM 305 Random Access Method of Accounting and Control (RAMAC).

Urine Data Bank Seen Aiding Addict Policy

WASHINGTON, D.C. — A proposed national computerized drug data bank would give the government a basis for formulating addiction policy, according to Dr. Lawrence V. Vineburgh, trustee for the Washington Reference Laboratory.

In making the proposal, Vineburgh called for all federally funded laboratories to contribute to the information pool. Through a urinalysis, such as those performed by the Washington Reference Laboratory, the content and quantity of dosages may be identified. "By putting that into the computer you would be able to observe what new drugs were being taken and in what combinations, and where."

Lykos Named to Computing Post at NSF

WASHINGTON, D.C. — Dr. Peter G. Lykos has been appointed program director for special research resources in the Office of Computing Activities of the National Science Foundation. His activities will concern development of computer-based techniques for scientific research and studies of the impact of the computer on society. Lykos is presently on a two-year leave from Illinois Institute of Technology.

System to Help Police Link Crime Patterns

LOS ANGELES — The Police Department here has unveiled a prototype computerized crime system designed to help officials pinpoint developing crime patterns and link related crimes. The Pattern Recognition and Information Correlation (Paticr) system, developed by System Development Corp., will undergo tests for eight months.

A detective using Paticr queries the system about a particular crime and compares the details with all other similar crimes in the city.

Polish Officials Hit DP Underutilization

WARSAW, Poland — The underuse of computers in Poland has become a concern of that nation's economic planners, who are striving to maximize the return on new investments and utilization of existing resources.

Most computers installed in Poland are not used, and those that are used are serviced by inadequately trained employees, decried a recent Warsaw Home Service broadcast.

Sharing Building May Benefit DP Facilities

GREEN BAY, Wis. — Locating the computer facilities of two firms in the same building is expected to provide each with added backup protection and greater flexibility in servicing customers. The DP centers belong to The Kellogg Citizens National Bank and Green Bay Packaging, Inc., which will also locate its accounting department and corporate staff in the building. The firms presently each use a 360/40.

N.Y. Police Thought They Seized Computer

NEW YORK — Press reports here last week cited a raid by local police on a gambling headquarters. Among the equipment seized by arresting officers were several office machines and a "computer."

After calling in experts to identify the confiscated equipment, which an officer described as "something new for us," the CPU turned out to be an ordinary calculator.

In addition to the standard arithmetic functions, the device was able to perform square root problems, a NYPD source told CW.

Get to know our family.

One member has keystations for under \$100 a month.
Another gives you a complete system for under \$1000 a month.

100
85

With the KEY-EDIT 100/85 your total monthly cost per key-station can be under \$100 a month. This is the lowest cost per key-station of any key-punch or key-to-tape replacement system available to the high-volume input user today.



Here's the original member of the KEY-EDIT family. The one that reduces data preparation costs to an absolute minimum. It's completely flexible as to applications and problems. 100/100 is now available with a variety of newly-designed data stations, optional configurations, model colors, and powerful editing software.

100
100

This is a high-performance computer-oriented data input system. With powerful editing and control programs, caging capability. Even with a wide range of peripheral equipment to choose from, you can have this system for under \$1000 per month!

The KEY-EDIT Series 100 Family of data preparation systems gives users a wide range of capabilities to meet the demanding requirements of modern computer operations. Systems features within the family allow the KEY-EDIT user to grow to larger models quickly and easily with user friendly operating changes. But KEY-EDIT users get more than a system.

They get a concept which is working now for governments, business, and industry around the world. And KEY-EDIT is backed by reliable service, reliable delivery and reliable people. In major cities from coast-to-coast. Contact them. They'll show you how KEY-EDIT can work best for you.

The KEY-EDIT 100/145 for commercial data processing



KEY-EDIT

made by  CONSOLIDATED COMPUTER

World leader in Data Input Equipment

BOSTON, 225 Wyman Street, Waltham, Mass. 02254. 617-491-7100

TORONTO, CANADA, 48 Yonge Street, Toronto, Ontario. 416-564-7643

LONDON, ENGLAND, Mortlake House, North Circular Road, London NW 10, England.

ATLANTA, CHICAGO, CLEVELAND, COLUMBUS, DETROIT, LOS ANGELES, NEW YORK, PHILADELPHIA, SAN FRANCISCO, WASHINGTON, D.C., MONTREAL, OTTAWA, HALIFAX, WINNIPEG, VANCOUVER, FRANKFURT AND MUNICH, W. GERMANY

Star-Spangled Send-Off

By Don Levitt
CW Staff Writer

WASHINGTON, DC. — The "neither rain nor sleet nor . . ." service has some software it wants to give away. The U.S. Postal Service has arranged a one-day symposium to be held here Aug. 26 to describe the wonders of the new package. Four volumes of documentation have been published by the Government Printing Office.

The symposium announcement said, modestly, that the new system, which can run on CDC, Univac or IBM CPUs, has been designed "not as significant as the introduction of atomic energy in the energy field." To get the session off to a good start, a military band will provide "opening music" at 8:30 a.m. and will play the national anthem after a formal call to order and presentation of the colors.

The system that brought on such a massive effort of publicity, and accommodation to potential users? It's an energy requirement analysis that calculates heating and cooling systems for buildings. More information about the package or the \$25 symposium including coffee, drinks and lunch is available from the Post Office Department, Bureau of Research and Engineering, 20260.

To Test Technology

Systems Approach Suggested for Town

CW Washington Bureau

ANNANDALE, Va. — An independent consultant here has recommended to a number of government and private agencies the construction of a new city that will utilize a systems approach to urban/environmental technology development and testing.

Camp A.P. Hill, an undemilitarized federal military installation near Fredericksburg, Va., would be the site for "developing a unique and composite urban system," according to Robert G. Smith, president of Innovative Systems Inc.

The system, he explained, would consist of an experimental new town, an urban-en-

vironmental research center and test facility.

The primary emphasis in the new town, related Smith, will be "on the conduct of urban and environmental research and development, testing and direct application of the results to technological, social and economic improvements at the site and in other new towns under construction throughout the nation."

Should a problem arise such as street maintenance or garbage collection, citizens could feed their complaints to neighborhood and engineering technicians who could relay the data to a computer for a solution.

The planning and construction of Camp A.P. Hill as a new town

"must be carried out within the context of an overall development cycle that is comprised of a series of basic but related functions including input, planning and management, output and feedback."

The input function involves the evaluation of data on external factors such as business conditions and population characteristics, and internal factors such as land use pattern and management structure.

The planning and management element is comprised of planning and development and economic model design and simulation.

The output function, a byproduct of the overall planning and management element, according to Smith, consists of quantitative data that can be obtained in terms of the new town constructed, number of people housed, the new environment created and jobs created.

The feedback mechanism, along with the economic model, is used primarily for updating, correcting and modifying the overall planning and management of the new town as it moves from concept, through planning and development, to maturity.

Drug Data Bank To Disseminate Medical Writings

By CW Staff Writer

PHILADELPHIA — While computer experts are finding new ways of using the tools of their trade to help combat the drug problem, a local company has found at least one: a data bank of the latest scientific writings on the subject.

Last May, Information InterScience (31) completed its research and began making the results available to the medical/scientific community. The results are standard 3 in. by 5 in. index cards, one for each article stored in the computer, an IBM 360/40.

The cards contain the key words (such as "cannabis" for all articles dealing with marijuana), the title and author of the article, the author's credentials, the source, a medical indexing of chemical structure of the drug, cross-indexing by symptoms and adverse reactions, plus control numbers for the data base of 50 million records.

All these OCR systems are backed by fully developed software and a highly specialized sales, analyst and support team. Further information is available by contacting Control Data Corporation, Dept. CW811, Box 1980, Twin Cities Airport Station, MN 55111. Or call our HOT LINE collect:

612/853-3535

CONTROL DATA



...from your General Store of computer products and services

The service will also be made available to other interested parties, including law enforcement officials, said Arthur Haines, manager of 31's Scientific Information Center.

The monthly listing costs \$52 for year subscription, and according to Haines, over 3,500 biomedical and chemical journals are consulted.

Haines said it might be possible to transmit the data over time-sharing terminals, although "we're not programmed for that as of now."

Transamerica Computer Company introduces the \$10,000-Off coupon:

Edward C. Campbell
Transamerica Computer Company
One California Street
San Francisco, Calif. 94111

Dear Mr. Campbell:
Please send me full information and quotations on
how I can purchase or lease Xerox Data Systems®
equipment for 20% less than XDS's current
published list prices.

NAME _____

TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

Maybe more.

It's up to you.

We're now prepared to sell or lease you XDS equipment at 20% less than XDS's current published list prices.

That could save you \$10,000. Or \$50,000. Or \$200,000.

We hasten to add that this is 100% XDS equipment.

With 100% XDS service.

But at 80% of XDS's equipment prices.

We can do this, because financing is our business, not computer-making.

And what we've learned about financing could fill a computer. Suffice to say we've learned how to offer you a good computer—at a better price.

We believe it's the best computer equipment value around.

But at these savings, it won't be around for long.

In fact, we can only offer it as available.

For full information and quotations, call or write Edward C. Campbell, Transamerica Computer Company, One California Street, San Francisco, California 94111. Phone: (415) 397-6420.

Transamerica Computer Company 
A Business Service of
Transamerica Corporation

Editorial

Revolutionary Progress

The 25th birthday of the electronic computer was celebrated last week with a black-tie dinner and an afternoon of critical discussion at ACM '71.

But three of the world's most dedicated computer users weren't present. Astronauts David R. Scott, James B. Irwin, and Alfred M. Worden were 250,000 miles away, orbiting the moon.

If computer technology has stumbled a bit during its infancy and its youth, the fact that it has already put men on the moon is breathtaking evidence of its leading role in the future.

People don't talk much about the "computer revolution" anymore, perhaps because computers didn't fulfill their advance billing fast enough to satisfy the man in the street. But "revolution" (a radical or complete change) is the word historians will be using before the computer's 50th birthday.

Indian Giver



Letters to the Editor

User Realizes Benefits From Using Sort 483

I have been following the hot Sort 483 debate for some time now, and feel that I must speak up in its defense [CW, June 16].

Like many other users, we converted to Sort 483 for the sake of 2314 support, but then we came to realize its many other benefits, which to me seem to overshadow any advantage which Sort 450 offers.

We didn't run any benchmark studies or any other "scientific" comparisons since we had no choice about the conversion, so I do not have any figures on actual timing.

However it did seem at the time that we realized an improvement in run time;

probably the difference was due to the 2314s themselves.

We are running on two 360/40s and a 360/30 and generally allocate at least 32K to a sort partition. The files, as a maximum, would not exceed 130,000 80-byte records, of which 10 bytes would be user information.

But I spoke of other benefits. To simply itemize:

- Self-relocation, both of the sort and user exits, thus avoiding cataloging exit modules at specific addresses, which would have to be given in parameter cards (the problem get common parameter system multiprogramming environment)

- Much logical communication between the sort and user exits — more consistent with intermodular linkages and much easier to use.

• The Exit option allowing the user to read his own input and/or write his own output (if Sort 450 had that, then it would support 2314s indirectly).

Thus it is possible to sort an IBM file into different formats and to make one program out of a pullout-sort-list trio

- Ability to write all exits into one program which would load and call the sort — beautiful for operator transparency, which, sad to say, is a need

- The user manual for Sort 483 is much clearer, more concise, more complete, easier to read — the description of user exits in the Sort 450 manual is garbled.

- We as a user, consider these things important, because they help us to do our job better.

Jerome P. Gonella
Systems Officer

remember facts for an examination, nothing else.

The real key to professionalism in DP is for companies to just simply remove those people who can't, or won't, produce results. The ones who remain will automatically be the professionals.

It is, after all, results that count, not initials after your name or fancy certificates on the wall. I wonder how many CDP holders ever study the exam or even pass it. Their respective companies, when they should have been producing a truly workable system, seemingly a rarity these days.

Howard B. Miller

Fort Lauderdale, Fla.

Education Exemption Wanted

I was a charter member of NMAA which subsequently became the DPMA. However, I dropped my membership some six years ago because I was not at all satisfied that the time and effort was worthwhile, specifically declined to participate in the CDP examination because I didn't believe it was worth the paper it was printed on. Not only did the time and cost we were asked to incur become a burden, but the creation of a formal organization that recognizes and promotes the certified data processing professional.

In the event that such an organization is founded, I will be the first to apply for the certification examination. However, I will be the first to drop out because of the lack of a college degree.

Would it be too difficult to establish an education exemption based on age and accomplishment, that would have a time limit? And such an exemption could be allowed by a local board of review?

The point is that there are many of us in the field that are qualified and certainly qualified by experience and training. To exclude such individuals from certification would deny recognition to some of the most capable people in our field.

Donald E. Nelson

Stephens-Nelson Computer Center
Spokane, Wash.

Taylor repudiates: Current the request is premature — but hopefully we will be able to take it up soon.

DP Security Needs Not Unusual

By James H. Johnson

Special to Computerworld

The concept that physical security must be tailored for the data center is a myth. Sure tactics are used to exploit the corporate executive and the glamour of ED/P to sell expensive equipment which may not be justified.

Except among the more alert business executives, many are accepting stories of losses and grandiose solutions of security without questioning the necessity. "We'll have a concert in front of a tape and wipe it out," was a caption in a prominent newspaper. It is not true, but what executive questioned?

The executive cannot accept the noise, initiate security programs, and move easily on without investigation and contact. What is the answer?

Some security firms having local sales and service to bid on conducting a security study, if you do not have a security officer. Have each firm prepare a report giving a security plan, a recommended list of suppliers for each item recommended, and an estimated cost of the completed installation.

Provide a list of equipment and submit this list to all the suppliers listed in the study report for a competitive bid. Upon receipt of the competitive bids tabulate the results and select the most economical combination.

Very few firms have the capability or the resources to evaluate all types of security equipment. Only larger firms

could justify the economics. If a firm has this capability, refer to their laboratory reports for very enlightening.

Recognize that danger begins on the outside. Explosives can be controlled by guards, fences, or remote warning devices.

If access is limited and controlled, only

known personnel should have access to the data center. Access to the data center

Viewpoint

or other areas within, such as the library, should be on a need-to-know basis.

Begin by removing all identification marks from the center. Install the access control devices recommended. Conduct personnel background checks on persons in critical positions. Minimize entrances and remote monitors.

Unless the security firm is well known, you may question the background of the personnel performing your consulting, or managing the firm. Your security depends upon it. Can you afford not to, if you expect to dispel the notion that your firm is a target? An intruder TV system performs the same in an alley as in a data center. An intrusion alarm detects intruders in the data center or department store. Physical security for computers does not require any knowledge of ED/P or ED/P specialization. Physical security is simple physical security.

J.H. Johnson is a security consultant from Centerville, Ohio.

The Central Trust Co.
Cincinnati, Ohio

Sort 450 Support Asked

I would like this letter to be considered as part of the needed demand for support on the Sort 450 if the necessary support is available for our installation and there is a definite "performance edge."

As most of our sorting is done in a 52K memory system (second or foreground), at what core availability does performance generally become a break-even proposition with Sort 483, and will the Sort 450 be relocatable? One final question: Will it be able to support the 2314 direct access device?

L.J. Lewandowski, Mgr.
EDP Department

The Bowstick-Braun Co.
Toledo, Ohio

Key to Professionalism

Seen in Pruning Stuffs

I have observed with some interest the efforts of Alan Taylor to start his exclusive CDP club. I get the implication this organization will appeal to some sort of snob group, that is to say, you aren't worth a damn if you don't have a CDP.

I have never been involved in anything as much into the educational area, and I have never really investigated the CDP exam. Perhaps I am speaking without proper knowledge, but bar exams have not eliminated incompetent lawyers, state board exams have not eliminated incompetent physicians, and the CDP exam will not eliminate incompetent programmers, analysts and managers. In fact, it really only indicates an ability to study and

learn material and pass a test. This is certainly qualified by experience and training. To exclude such individuals from certification would deny recognition to some of the most capable people in our field.

Donald E. Nelson

Stephens-Nelson Computer Center
Spokane, Wash.

Taylor repudiates: Current the request is premature — but hopefully we will be able to take it up soon.

Computerworld welcomes comments from its readers. Preference will be given to letters of 150 words or less. Letters should be addressed to: Editor, Computerworld, 100 Washington St., Newton, Mass. 02160.

Reader Takes the Ball

Standards Thoughts: Why Does Output Need Coding?

Many people write a few comments on some of the various standards that have been suggested here [CW, June 2], but few undertake the job of commenting upon all of them. Even fewer do a good job when they comment at length.

One of the people whose com-

ments are always valuable and interesting is W. Leon Sonnenburg, president of Renshaw & Co., Inc., St. Louis. He actually suggested one of the standards in the first place, and now has commented upon the set of eight.

Under the circumstances I feel that the best thing I can do is to let you have his comments — so here they are.

Incidentally, I like them, but I would like to know some more readers' ideas.

No Coding for Consumers

I agree with Winstanley that when coding is used it should be intuitively meaningful (Rule No. 3), but I cannot think of a logical reason why consumer output generated for the consumer, even intuitively meaningful, coding should not be used at

all on computer output for consumers.

It is always simpler to eliminate entirely all codes and associated legends from their interpretation from the printed form, and to insert the complete description of codes that apply to this customer for this period in place of the jargon required to interpret any set of codes.

This technique virtually always produces documents that are easier to read than those that would have been with a set of codes to be interpreted.

The reason for using codes on output has not existed since the computer came into prominence. The coding of data for output started in the days of tab equipment because:

- The 80 column card simply

needed enough columns to contain the necessary code data, much less the descriptive information itself.

• Tab equipment did not have the ability to translate codes to their descriptive meaning for output reports such as is easily done with tables on today's equipment.

The use of coding is just as valuable today as it was ever for other reasons, but with com-

puters and their ability to handle tables it is absurd to give the consumer a code that he must decipher through a table.

Freezing Rates

The concept of freezing interest rates on contested bills (Rule No. 5) should be expanded to include an ability to freeze (or completely reverse) any data that is automatically generated by the system.

The calculation of interest as noted by Jones is an excellent example of a computer-generated number that, once gone "hazy," is compounded by the "computerized" system.

I could not agree more with the standard of providing easy input for the consumer. I would add that the automatic system should notify the user that it is aware he is contesting the record and that the matter will be resolved as quickly as possible.

The system should also refrain

from sending any derogatory messages to the consumer if the bill is being contested. In fact any time the computer produces derogatory messages they should never be mailed until approved by a human.

"Variables used should be understandable" (Rule No. 7) to: "Any document should be readable and understandable on its face."

Any reasonable prudent individual should easily be able to identify:

- Who the bill is from
- Who it is for
- What the bill is for
- How any service charges were calculated
- What the consumer should do once he has the bill.

Validation Should Be Easy

Numbers such as new balances or finance charge amounts are not understandable on their face and therefore the system designer should be designed to make it easy for the consumer to validate such numbers.

For the finance charge the consumer must know the rate(s) and balance(s) used and for new balance it is always necessary to know the old balance plus purchases less credits.

In addition, any number presented as a result of manipulation of other factors must have additional explanations when displayed for the consumer.

In my opinion the standard, "(People) should respond from reason not fear" (Rule No. 8) should be phrased: "The automated system should respond from reason."

Dr. Herwitz has an excellent

Sanford Restates Standards

No.	Suggested Standard	Restatement
1.	Check Input Validity	None
2.	Check Output Validity	None
3.	Coding Should Be Intuitively Meaningful	Coding should not be used on outputs except when absolutely necessary — then it should be intuitively meaningful.
4.	A Bill Should Be Payable (complete, accurate, and easy to understand)	None
5.	Freeze Interest Rates on Contested Bills	Automated systems should be designed with provisions made to freeze overriding any "computer generated" data just like any other type of data.
6.	Provide Easy Input for Contesting Records	All automated systems should be designed to hold contested records in limbo and notify the consumer.
7.	Variables Used Should Be Understandable	Any document should be readable and understandable on its face.
B.	(People Should) Respond From Reason Rather Than Fear	The automated system itself should be designed to respond from reason.

point, but computer systems (particularly those generating information to consumers) can, and should be designed so that they provide two-way communication with the consumer.

• The computer should always acknowledge that the consumer has communicated with the system (particularly where the consumer was upset).

The computer could easily have available a set of various responses to be triggered as responses to specific types of user contact.

• Such responses should be expedited, perhaps air mailed or sent by special delivery, to show that the automated system feels

the consumer is important.

• One thing that really frustrates consumers is that the computer just ignores their pleas.

The undue "past due" notice is followed by a second, a third and seemingly endless string of further abuses.

• Who can the automated system first recognize is it (or someone finding it data) has erred and then apologize to the consumer for the mistake?

© Copyright 1971 Alan Taylor. Reproduction for commercial purposes without written permission. Limited numbers of copies for non-commercial purposes may be reproduced provided a copyright notice, "The views expressed in this column do not necessarily reflect those of Computerworld."

Taylor Thoughts

A beautiful piece of ergonomics is the way that holes are punched in the Veterans Administration Certification of Attendance for courses leading to a standard college degree.

The back of the punched card is oriented right over the positions of the punch holes, so the holes can make it impossible to read the warning that the card must be sent back.

This is not good, nor fold, spindle or mutilate" to a ridiculous extent. (Incidentally, I wonder if when the Budget Bureau approved this form (No. 76-RM005) it was aware that holes would be punched all over it? Or doesn't it care?)

Actually the Veterans Administration computers seem to have things their own way. Apparently if a card is not received, the computer automatically suspends any further payments. The VA does not bother to send out a notice.

Dan C. Winter, director of the computer center at New York City Community College, tells me that on querying this weird procedure he was told, "The computer does not work that way." Interesting, eh?

A daft-looking computer-generated letter was passed on to me by Howard Matthews III, associate development director of AFS International schools. It was addressed to Deer Mr. "H.," and talk about "Painful forms"!

Assume that such a standard American abbreviation should have escaped the attention of our letter writers. What's worse, of them have longstanding family names.

A new idea about the paper pollution problem came in from the Framingham firm of PDI's, where John Hays and Ed Lipchur started a good and easily practical technique. The idea is to get the paper and cards back for recycling. The technique uses a centralized dump-off point at a local computer manufacturer's branch office — in this case NCR's.

Because of the close communications that exist it does not take too much to organize the pickup. The main thing, John tells me, is to establish that the operator folds the paper in the boxes, without the carbons, as a matter of routine operations.

Once the paper gets thrown into a bin of course there is no chance for recycling. The point looks like a reasonable one to me, so I will pass the tip on for other people to work with.

WE
BUY • SELL
NEW-USFO
TELETYPE®

• Any Model
• Any Condition
EASTERN DYNAMICS CORP.
1156 Seaford Drive
Brentwood, N.Y. 11717
516-231-8800



ASSOCIATED COMPUTING SERVICES, INC.

20944 SHERMAN BAY/CANOSA PARK, CALIFORNIA 91303/(313) 894-0945
ACS announces a new software package for IBM 3270 DOS which provides the user with control over his Core Image, Retocatable, & Source Statement Libraries. This is called DOS/AUDIT and provides:

1. Listing of core library in page mode sequence with the DATE on which the program was cataloged. This allows the user (S. editor) to load a specific program quickly and easily into the U.S. based program being used.
2. List all programs deleted or renamed since last DOS/AUDIT run. This enables EDP personnel/auditors to determine if production programs have been modified & reinstalled.

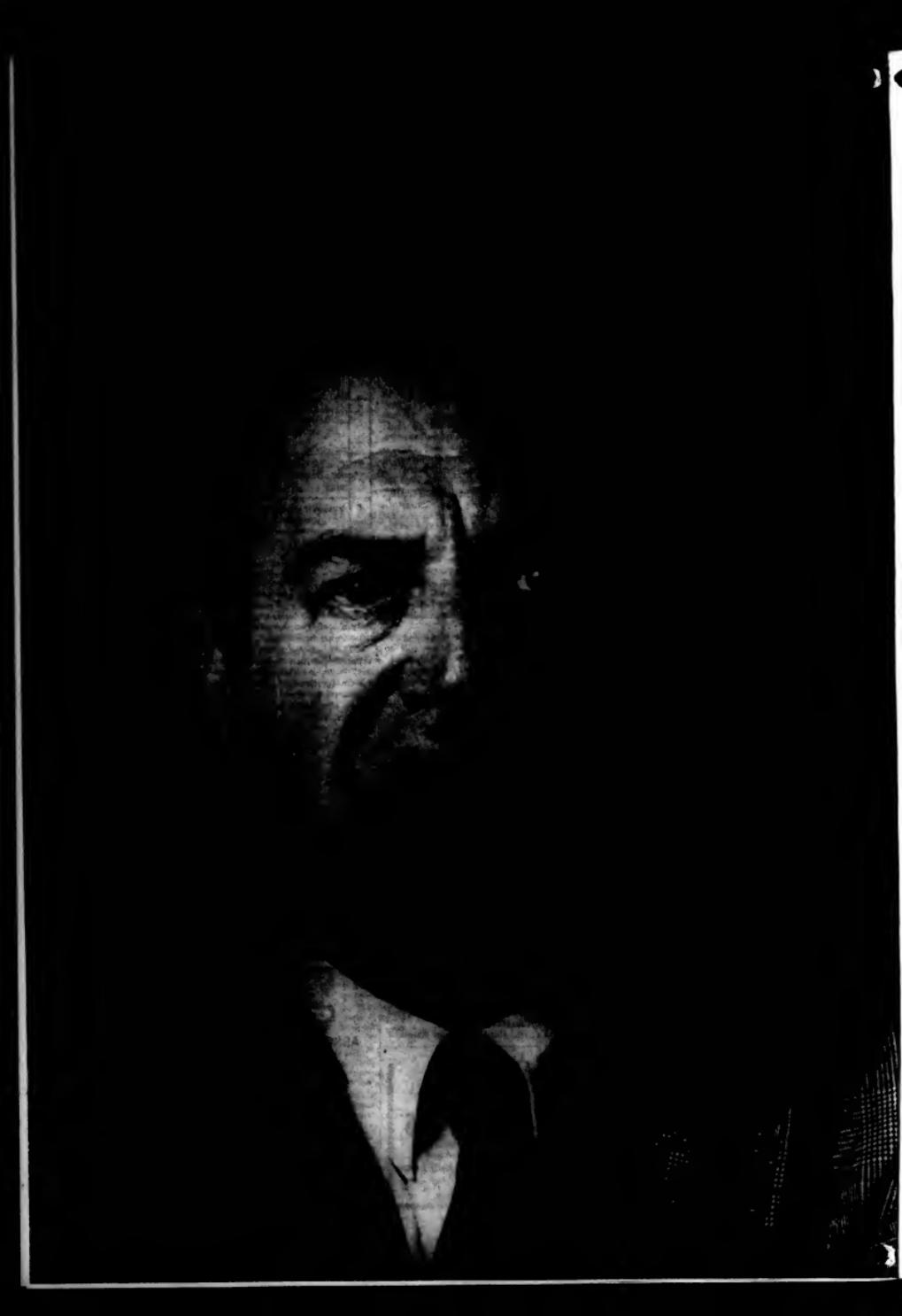
Try DOS/AUDIT for 10 days, with no obligation! Price \$70 or on a low monthly rental

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____ ZIP _____

CITY & STATE _____



Who'd believe that garbage!

... 30% minimum reduction in run time . . . 25% reduction in core . . . 20% reduction in disc space—just by replacing ISAM with AMIGOS?

Why you guys from COMRESS must think I'm naive. I already speeded up my ISAM . . . put my cylinder index in core, added a binary search, pre-sorted my input and even included dummy records in my file!

You say 'so did others' . . . and they still realize these reductions . . . and more?

Aw! c'mon . . . who you kidding . . . who'd bite for a line like that?

You say fifty of the largest EDP users in the States . . . banking, insurance, aerospace, manufacturing . . . stop! stop! I've heard enough!

Let's see that contract . . . is that all it costs? . . . now who do you think will believe that, buster?

COMRESS HEADQUARTERS: TWO RESEARCH COURT, ROCKVILLE, MARYLAND 20850. PHONE: (301) 948-8000

AMIGOS Developed by DATA ART—Subsidiary of COMRESS

Return to:

Systems Development Division

COMRESS HEADQUARTERS

2 Research Court

Rockville, Maryland 20850

C'mon . . . you think I'd believe that garbage? Show me.

Name _____ Title _____

Firm _____

City _____ State _____ Zip _____

Telephone (Area Code) _____ / _____

Acronyms Set Straight

By a CW Staff Writer

Acronyms, by John P. Tutanjian, P.O. Box 93, Jericho, N.Y. 11753, 44 pages, \$2.

The woods of computerdom are infested with acronyms and initials. And it always seems that the ones you know are spelled out in first reference and the ones you don't know are never spelled out.

This second and twice as comprehensive edition of **Acronyms** (the first was published in 1968 by Computer Guidance Corp.) serves as a handy translator that may save you hours of nail-biting.

August 11, 1971

Random Notes**Dedicated Fee Cut 33%, Other SBC Rates Unchanged**

WHITE PLAINS, N.Y. — Service Bureau Corp. has reduced by 33% the dedicated line service fee charged to large time-sharing customers. Typically, the dedicated line service substitution for the \$11/hr connect time charge ran about \$1,375 a month, IBM said. The new price is about \$925. Storage, CPU time, and regular hourly connect time remain the same.

PDP-15 Users Get New Fortran With Features for Business DP

MAYNARD, Mass. — An improved version of Fortran IV that can execute some programs 11 times faster than the previous Fortran, is available to PDP-15 users from DEC.

The new Fortran includes expanded I/O format capabilities, and extensive subroutines and function capabilities; all said to be particularly suited to commercial applications. The new Fortran requires 16K words of memory and a disk. It is available as part of the DOS-15 operating system.

Part Analysis Done on Minis With Modern Data Package

SANTA ANA, Calif. — Minicomputer users can plan and manage their project work schedules, with Modern Part, from Modern Data Systems.

Modern Part provides all the usual analysis functions from data in a Part network design, but doesn't have all the bells and whistles that users of full scale CPUs might be able to get from other packages, the company said. It is, however, coded in ANSI Fortran and provided in source language, so it could be used on any system that supports Fortran. It is available for \$550, from 1505 East 17th St., 92701.

Beta Software Eases COM Work

NEWTON, Mass. — Two sets of programs from Beta Instrument Company allow users of the company's computer-output-microfilmers to concentrate on their application programs without concern for the COM interface.

The Integrated Graphics System includes subroutines that instruct the user's CPU to create graphic orders to be transmitted to the COM via a tape file. The Meta Language resides in the COM's minicomputer and sends the output on film based on tapes generated by Fortran, PL/I, BAL or any other OS/360 compatible language. Beta is at 20 Osipow Road, 02164.

"Martha" Analyzes Circuits

TRENTON, N.J. — Use of IBM 360 APL can analyze several linear electrical networks at the same time with Martha, a group of programs from APL General, Inc. The user's manual that describes the programs is available separately for \$8.95 from the MIT Press, Cambridge, Mass.

The programs are said to analyze, as a function of frequency, various circuit parameters, transmission-type networks, having an input and an output. This includes filters, amplifiers, microwave networks and feedback systems. APL General is at 433 Letona Ave., 08618.

Optimized's 'Optimize'**User Tunes OS/360 Operation to Needs**

By Don Levitt
CW Staff Writer

ANAHEIM, Calif. — IBM OS/360 users may be able to improve their operations as much as 30% with the Optimizer monitor package from Optimized Computer Systems (OCS). Improvement is about 10% for most users but has been three times as much in some cases, the company said.

Optimizer monitors the I/O operations controlled by OS/360. It does not consider the logic of the user's application programs. The reports generated by the package tell the user how to arrange his system to reduce I/O wait time.

By cutting into that overhead figure, Optimizer allows the user to reduce overall CPU time for the same workload, or to add to the workload handled in the same amount of time as before optimization, a spokesman said.

Optimizer reports identify the most likely disk data sets and data set numbers. The system shows how to reorganize data sets on the disk packs to reduce seek times.

The monitor also determines the optimum size for the SVC transient area. Based on actual usage, it lists which supervisor routines should be core resident and which should be handled through the BLDL table.

Single Package Concept

Optimizer includes data collection and reporting in a single package so that the results of the monitoring are printed as soon as a job stream is completed without having to load a separate print utility run.

Library Control System Catalogs DOS JCL Procedures on Disk File

SOMERVILLE, N.J. — The principles of the OS/360 Procedure Library for the cataloging of JCL job streams onto a disk file are available to DOS users through the JCL Library Control System (JCL/LCS) from Western Reserve, Inc.

A procedure library is a higher level

The package can be used in a variety of OS environments. Written in BAL, it requires 30K bytes of core and will run on MVT, MVS and VM. No extra space is needed to use the system on AS/400 or Haip system, an OCS spokesman said.

Optimizer will run on Model 40 and larger 360s, and on 370s.

The package sells for \$1,400 and OCS provides assistance in the installation and use of the package. Complete documentation is included. The OCS mailing address is P.O. Box 6372, 92806.

Package 'Maps' Company Projects

NEW YORK — The Management Analysis System (Maps), from Vital Computer Services International, is a vital administrative, control, project control and cost accounting package that operates under either DOS or OS/360.

Developed originally for control of DP operations, the package can be adapted to suit any industry. Key to the system are a set of "maps" which are the smallest definable step in any project. These tasks can be peculiar to DP or to any other business.

Along with the definition of tasks, the Maps Parameter file includes cost, time and other elements that are passed to the using company. It is a system of operation, regulation and control of the working being done.

The system works with employee time sheets, and project phase and employee

files. Optimal input includes time plans and cost plan information and actual cost figures.

Maps generates management reports showing, overall, what projects are currently underway. Project managers receive reports showing how well the projects are doing and accountants get data on how much they are costing.

Exception reports identify those projects that are running late or over budget. They are used to handle or over budget. However, loading reports are produced for 12 months, for planning purposes.

The system is written in Cobol and uses 40- to 50K partition, a disk pack and two tape drives. It is available under perpetual license for \$6,000 from 18 East 41st St., 10017.

library than the standard DOS source, according to core storage facilities, a Western spokesman. This file contains groups of JCL statements, called procedures which may contain one or more jobs or job steps.

Procedures may be used effectively where a second card reader is unavailable for job control in a second partition. They are used when job activity is highly repetitive, and when a specific job sequence is required.

Executing procedures is said to provide better control of job streams than providing decks of JCL cards to the operator. In a card environment, temporary changes can become permanent modifications if the operator forgets to pull the patch card.

Temporary modifications to the procedures controlled by JCL/LCS can be made at execution time through the console. These changes do not affect the standard job stream in the Procedure Library, however, and it remains as originally catalogued.

There is no provision, in fact, for revising any of the catalogued procedures on an item-by-item basis.

JCL/LCS costs \$1,200 and uses less than 2K of core. Western Reserve, Inc. is at 4 Columbus Drive, 08876.

Jasper' Taps DOS Release 25 For Job Accounting Statistics

NEW YORK — Although IBM included a Job Accounting module in DOS Version 25, the company did not provide the coding necessary to access, store, retrieve and process the data. Jasper, the Job Accounting System, Programs for Evaluation and Reporting from Datachron Corp. provides this support.

For each job step, a record is created in IBM's Job Accounting table which is transient. Jasper accesses this table and stores the record in a reserved area on disk. Each day Jasper recalls this data and prints a log of all computer activity.

Jasper also compares the performance of each run against last week's performance and flags those jobs that were not within acceptable limits. Each week, the system recalculates the average for each run so the daily comparisons are made against currently realistic figures.

Show Operator Performance

Datachron's system prepares a daily exception report of jobs that ran into difficulty, and a summary of operator performance by shift. A weekly analysis of operator performance would identify continuing trends not apparent in the daily report.

Each day, Jasper graphs partition and peripheral usage, by shift. Weekly summaries of these graphs are also provided.

A weekly report groups jobs by their general characteristics. This would allow the user to select jobs with complementary requirements for an effective multi-programming mix, the company said.

Jasper costs about \$2,500 and is available now from Datachron, at 174 Fifth Ave., 10010.

ASSEMBLER LANGUAGE CONVERSION SYSTEM FOR S/360 AND S/370**DOS TO OS****COMPLETELY AUTOMATIC AND REASONABLY PRICED**

Contact Larry Melton

Hercules Micro Educators
Financial Security

216 East Monroe Street
Springfield, Illinois 62701
(217) 544-3481



FOR EDP SERVICES

THIS PRINTING CALCULATOR CAPTURES DATA AT THE SOURCE FOR DIRECT COMPUTER INPUT



The SORCERER is a four function calculator which provides a printed audit tape, nine non-add keys for completely categorizing data, check-digit verification, four separate totals, operator monitoring, magnetic tape cassette storage, and a built-in automatic-answer modem for unattended polling of data by your computer.

For full details, write or call:

TRANTI SYSTEMS INC.

540 Main Street Tewksbury, Mass. 01876
617-851-4288

New Add on Core for System 360

The
lowest price
available

The new Model 3768 Storage Unit lets IBM 360 System users expand their system's memory at the lowest price available.

By utilizing the host processor and its time-proven system diagnostics for preventive maintenance as well as remedial maintenance, costly built-in test equipment has been eliminated. The Model 3768 offers direct plug-to-plug compatibility with no complex interface required. Memory changes, available in standard IBM storage capacities including the Model 30 2.0 micro-second processor.

All CHCS memory systems are manufactured, installed and maintained by personnel thoroughly trained on IBM equipment including System 360 operation, testing, installation, and operational maintenance.

Use of CHCS memory systems will not affect existing IBM mainframe maintenance contract.

The Model 3768 Storage Unit is available immediately for sale or lease.

Computer Hardware Consultants & Services, Inc.

1409 Easton Road, Warrington, Pa. 18976 215-343-1430



Formal Request, Review of Proposals Eases Evaluation of DP Consultants

By Bruce H. Frank

Specialist to Computerworld

In the last several years, the use of consultants in the computer industry has increased and the questions of how to select and deal with them has become increasingly important to those involved. Unfortunately, many people in the industry are novices in dealing with outside contractors.

A person who wishes to buy consulting services must start by consulting the consultants he is considering, both the work required from them and the terms and conditions of purchase of this work. This should be done in the form of a request for proposal.

These requests should contain the technical specifications of the required items such as:

- The acceptance criteria (what the judgment of acceptance of the final product will be based upon)
- Requirements of documentation required from the consul-

tant

- The computer data requirements, (for example: When a problem develops in running on the in-house computer, what is the assignment as to whether or not it is an equipment problem or software problem?)

- The required schedule
- The form of contract which the client expects to issue — fixed price, cost plus fixed fee, time and materials, etc. If the client has a preference

- The ownership of proprietary data
- Who is the key person to communicate with in the company.

In addition to the above, the content of the required proposals should be modified so that the client will receive proposals which can be compared easily. Some of the general sections of the proposals, which should be required, are:

- Technical approach
- The experience of the consultant or similar projects
- The key personnel who will be assigned to this project (rather than the key personnel in the company)

• The factors that will be used. Will they be at the client's facilities or the consultant's facility? Would the client's computer or the consultant's computer be utilized?

• The time plan which the consultant proposes, in more detail, than the schedule which has been given to him.

• A breakdown of all the various tasks involved

- The costs of the project
- The alternatives, if any, which the consultant proposes to the approach which the client has specified as a technical specification

In analyzing proposals, it is imperative that personal bias be kept to a minimum. More than one person must be assigned the task of reviewing proposals and this review must be done independently by each person working by himself. The reviewers should be given a set of "ground rules" for evaluation, so that they can attempt to quantify their evaluations.

Prior to receipt of the proposal the client should analyze the cost of work, man and schedule. It would be reasonable to expect from the contractor, in this way, a "red flag" can go up when either factor is significantly less or more than the estimate made.

Parameters

Otherwise, the client can develop a worksheet showing the maximum score a reviewer may give each of the parameters of technical competence, technical

approach, the management approach, the similar experience of the consultant, his schedule, understanding of the requirements, and responsiveness to the work needs of the client.

Although one reviewer may differ with others, item by item, he would be consistent in his own scoring since he is evaluating all of the proposals submitted.

Proposals Ranked

The total score given a proposal by a reviewer determines its rank among all the proposals. Comparing ranks determined by this method, we have found an

Analysis

amazing consistency of results from reviewers working independently of one another.

Once the client has the ranking, based on everything but price, he can examine the pricing. Sometimes he will find that one bidder who he considers third in terms of competence has the lowest price. Now a decision must be made as to whether to choose him because of the low price or because his competence is so far below the others that he would rather pay the higher price. The work sheets, therefore, are not used to make a final automatic decision but rather as an input to the decision process.

Spots Understood?

During the evaluation, the evaluators should carefully examine the plans of the bidder to assure that he has a clear understanding of the specifications, not just a conformity to them. He should also have a sound approach to the project, attainable schedules, and costs that are reasonable for the work.

If the request for proposal contains terms and conditions, it should be clearly stated in the letter of issuing a Purchase Order referring to the request for proposal as well as the proposal itself, and then proceeding with the work.

There are many different types of contract forms which can be used in computer work. The most frequently used are those based on fixed price, time and materials or on incentives. Each of these is an extremely good contract form when used correctly but can be extremely dangerous when used incorrectly.

Bruce H. Frank is director of computer and project management services for Stevenson, Jorden & Harrison Management Consultants, Inc., New York.

LOOKING FOR THAT FLEXIBLE DATA BASE STRUCTURE?

Take a look at our List Management System. LMS solves that difficult application problem by providing you with the ability to create data stacks, multiple threaded lists, repeating groups, tree structures or network structures.

As a special introduction this system will be offered in the month of July for only \$5,000.00. For further information write or call

E.C. Shultz

JEFFERSON FINANCIAL SYSTEMS INC.
177 North Franklin Street Chicago, Illinois 60606 312/372-8414

August 11, 1971

Bits and Pieces**Bigger Buffer Beefs Up 2770 Remote Batch System**

WHITE PLAINS, N.Y. — IBM's 2770 data communications system has been enhanced with an additional, buffer expansion feature that doubles the 512 word buffer depth of each buffer block, and a space compression-expansion feature that removes consecutive spaces in transmitted date and re-inserts them in received date.

The additional buffer expansion will rent for \$55/mo, and sell for \$2,420. The space compression-expansion feature will rent for \$40/mo and sell for \$1,760. They are scheduled for customer shipment in January, 1972.

Orion CRT Makes Cuts Prices . . .

PENNSAUKEN, N.J. — Video Systems Corp. has reduced the price of its VST-1200 CRT data terminal from \$2,670 to \$1,795, in quantities from one to four. The terminal displays 18 lines of 72 characters. The unit's one year rental price has also been reduced, from \$99 to \$79. Orion is at 80110, 10th St., 08110.

. . . And So Does Another

GREENLAWN, N.Y. — And Hazelton has reduced the price of its 2000 CRT terminal from \$108 to \$88 a month, effective August 1. The new price includes maintenance. Hazelton attributed the rental decrease to the high sales of the unit. Hazelton is in Greenlawn, New York, 11740.

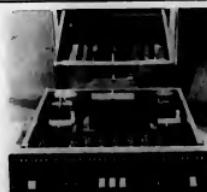
512K Offered for 360/40

MILPITAS, Calif. — A replacement core memory for the 360/40 that can expand memory size up to 512K bytes is available from Fabri-Tek. The largest memory available from IBM for the 40 is 256K.

To move from the 32K minimum on the 40 to 256K costs \$449.95 through IBM. The same core with Fabri-Tek costs \$219,000, while a move to 512K costs \$441,200. Fabri-Tek is at 5801 S. County Road 18, 55436.

Graf/pen Fines 16

SOUTHBROOK, Conn. — Science Accessories Corp.'s Graf/pen data entry system has been interfaced to Honeywell Series 15 minicomputers. Graf/pen uses a sound emitting, ball point pen-like device for manual data entry. The new interface costs \$1,800, and is available in four to six weeks. Science Accessories is at 65 Station St., 06490.

**PDP-11 Simulator Unit Permits Off-Line Hardware Debugging**

CAMBRIDGE, Mass. — The 11-Simulator from Kenics Systems Corp. is a hardware replacement for the DEC P-350 off-line terminal used in validating peripheral equipment. *

By replacing the mainframe for debugging, it allows the computer to be used for software debugging, as well as preventing damage to the mainframe, and providing synched signals for oscilloscope testing.

The simulator is tied into the Unibus in the same manner as the PDP-11, and addresses, interrogates, and writes into peripheral equipment under complete manual control. The unit also checks external interrupt and direct memory access logic.

In order of writing and testing a program for peripheral checkout, an engineer can get immediate response by setting switches on the simulator. Each piece of peripheral hardware can be proven before hook-up. Once the system is up, the simulator can be used for tracking down bugs.

The unit costs under \$1,000, and will be available for delivery in a month. Kenics is at 125 Harvard St., 02139.

Billing System Costs \$220/Mo

NEW YORK — An automated in-house billing system designed especially for apparel manufacturers, developed by Philips Business Systems Inc., has been introduced. The system, with a new software package for handling the specialized billing requirements of the garment industry. The total installed system will sell for \$8,995, or lease for less than \$220 per month.

The system provides pricing of styles, extensions, United Parcel Service and Parcel Post charges by zone, and insurance rate charges. All the operator does is

OCR Manufacturer's Poll Yields Checklist of Forms Design Bugs

BUFFALO, N.Y. — OCR forms design is complex, but all too often it is one of the last subjects to be covered when a new OCR system is installed. And all too often, forms design isn't considered deeply enough; as a result, it has become a problem area.

The forms design group at Graphic Controls Corp. conducted a survey among DP managers to determine which problems were most common and most troublesome.

A designer and manufacturer of OCR forms, Graphic Controls compiled results of the survey into the following quick checklist to guide DP managers and help them avoid the most frequent and toughest OCR forms problems.

• Margins. Minimum form dimensions should be specified on all OCR machines.

And in some cases they refer to the center of the first character rather than to its outside edge. Specifications should be double checked.

• Different Fonts. Some machines can read anything from ASASOCMCR to handprinted characters, but most can't.

The typewriters and the forms must match in this respect.

• Logotypes. When company names, addresses or other identification information must be included on the forms, they should be outside the read area or printed non-read ink.

• Aspect Ratio. The ratio of the form's width to its height is critical. If it is less than 1:1, particularly with lightweight paper, it should be carefully evaluated and thoroughly tested.

• Line Spacing. All data to be scanned on the same form — and all forms produced by the same machine — must have the same line spacing. All forms should be designed to take advantage of the most efficient scan mode of the machine.

• Field Separators. These can be very useful as a means of saving machine time.

They should be preprinted on the forms where possible, but can also be typed along with data. When used with six per inch line spacing, however, some machines cannot read the line above or below a line in which a field separator has been typed.

• Locator Marks and Symbols. These are often used to establish the correct form-to-machine orientation and alignment. Sometimes, machines that use these characters use the exact position of the first character to read on the form. When the mark is in the scan area, make sure your forms designer checks the particular specifications of the machine.

• Typing. Guidance for typists is a major consideration in OCR systems. Printed guidelines for end-of-field and end-of-page are most helpful. Provisions for error correction are an absolute must. The forms designer should take an active role in training the typist.

• Form Dimensions. Short and long dimensions — both maximum and minimum — vary from machine to machine. Exact specification must be checked with each form you use, and trim tolerances must be considered.

**Emulates 2741**

Trendex's Model 1500 Cassette Tape Terminal stores keyboard-entered data on Philips-type tape cassettes. The data can be checked, corrected, formatted, and stored with the terminal off-line, and then transmitted at 14.8 char/sec to a host computer.

The terminal, which leases for \$175/mo on a one-year basis, is plug-compatible with the Model 2741, which rents for \$95 a month and is strictly an on-line, keyboard entry device. The 1500 uses an incremental recording technique that allows editing — or a character or a complete paragraph — without rewriting the entire paragraph. Delivery is 60 days. Trendex is at 505 N. Pastoria Ave., Sunnyvale, Calif. 94086.

**Q. What's 1800 lpm?
A. Fast Enough**

The Data Products 2470 LINE PRINTER prints up to 1800 lines a minute in a standard 132-column format. That's fast enough to qualify in most high-volume EDP installations. Print quality assured by exclusive Mark IV friction-free hammer. Cost is small enough to qualify for your budget.

Another of our dollar liberating ideas.

**OEM Marketing**

16055 Ventura Boulevard, Encino, California 91316. 213/981-9600

Action, Mass. 617/453-1961
Bethesda, Md. 301/452-1220
Cherry Hill, N.J. 609/667-7555
Dallas, Texas 214/349-1377
Detroit, Mich. 313/548-5528
Los Altos, Calif. 415/941-5485
Long Beach, Calif. 714/427-0900
Melbourne, Fla. 305/732-0720
Minneapolis, Minn. 612/927-0747



DATA PRODUCTS™

INFORIX



GOOD NEWS!

The INFOREX Intelligent Key Entry™ System just caught another error before it became costly.

Every element of this System including the CRT display and flashing red indicator light is designed for faster input with fewer mistakes. The CRT display not only tells the operator when she makes an error, it displays the full record as she enters it. Helps avoid duplicated or omitted data.

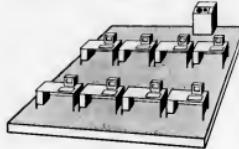
Correction is easy. Just backspace and rekey the proper character. Smooth and simple. Any keystation can sight and key verify the work of any other keystation—with the same ease of correction. Result: Even greater efficiency in error detection and correction.

Write for full data to help evaluate the price/performance leadership of the Intelligent Key Entry System in your operation. We would also be pleased to have you check with present users on System performance and service.

Write Inforex, Inc., 21 North Avenue, Burlington, Mass. 01803 or Inforex AG, Birsigstrasse 4, 4000 Basel, Switzerland.

EIGHT KEYSTATION SYSTEM FOR \$120 A MONTH PER STATION

Up to eight keystations input to a memory and logic control unit capable of storing 128 program controls. Any keystation can check the work of any other by full record CRT display or key verification. Completed jobs are transferred to 7- or 9-track computer compatible tape.





This terminal talks fast — up to 240 characters a second. That's 2,000 words a minute, or about 400 payroll checks during a 3 minute phone call. Listens to a computer talk that fast too, and put it on magnetic tape. The Novar 5-50.

novar

Novar Corporation • 2370 Charleston Road
Mountain View, Calif. 94030 • (415) 964-3900
Offices In Principal Cities

GTE INFORMATION SYSTEMS

time-sharing terminals

Portable 33 ASR
with separate or built-in
Acoustic Data Set

\$1274

or
\$44.88/Month
(3 Year Term
with purchase options)



MODEL 301A2-13



Acoustic Data Sets

—Many Variations and Models—
Combination Acoustic and Hardwire
for DAA • Automatic Answer
• Kit form for TELETYPE

\$245 List

(plus Quantity Discounts)

Hardwire Data Sets
Compatible with Bell System 103F

\$245 List

(plus Quantity Discounts)



MODEL 301F

Multiplexers • Data Channel Expanders • 201A/SCU Controllers and other Data Communications Equipment

Canada Cites 'Important DP Role'

TORONTO — The week of Sept. 12-18 has been proclaimed "Information Processing Week" by Mayor William Dennison, in recognition of "the important role the data processing profession plays in all areas of government and industry."

The week intentionally coincides with the Canadian Computer Show (an exhibition) and the annual Canadian Computer Conference (26 technical sessions), both sponsored by the Canadian Information Processing Society (Cips).

The conference will host nearly 100 speakers from Canada and the U.S. An independent panel of judges will award "best paper" prizes of \$1,000 and \$500.

Societies/
User Groups

\$250, with the aim of competition among "original developments" by Canadians in the computer field," Cips said.

At the conference/show Sept. 15-17, exhibits will cover computers, peripheral equipment, software, and timesharing services. Show officials said much of the equipment will be exhibited for the first time in Canada.

A.R. Black, conference chairman, noted there are four "streams" of conference sessions, appealing to "management, technical, scientific-educational and general interests."

The Ontario Minister of Education will open the conference, officially dubbed "Session '71," and W.V. Moore, president of IBM Canada, Ltd., will deliver the keynote address.

Users, exhibitors and industry experts will comprise most of the speakers, and Robert ("Up the Organization") Townsend will address a morning session Sept. 16.

Also on the speaker's list is Jerry Bergman, science editor of the American Broadcasting Company, who will discuss "The computer society."

The technical sessions ("Session '71") will be held in the Royal York Hotel. The exhibits will be on display at the Automotive Engineering, Canadian National Exhibition.

Information is available from Chairman Black at P.O. Box 343, Toronto Dominion Centre, Toronto 111, Ontario.

Afips Intern to China?

MONTVALVE, N.J. — The Computer Internship Program, organized by the American Federation of Information Processing Societies (Afips) will be continued for a second year, the organization has announced.

Although names and affiliations of the 1971-72 interns have not been released as yet, Afips said the five individuals were selected.

It was expected that one of the first-year interns would study and assist in the development and application of computing technology in Taiwan.

The program consists of grants to cover transportation costs for

candidates to serve for one year at a college or university in a nation whose computing technology is still in the developmental stage.

The program is open to graduate students, with preference given to candidates who are about to receive, or have just received, their doctor's degree in computing, or have "substantial" practical experience in the field.

Opportunities also exist, Afips noted, in Southeast Asia, the Middle East, Africa, and Latin America.

Deadline for applications is Nov. 1. The committee is at 210 Summit Ave., 07645.

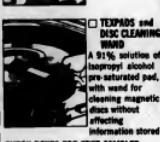
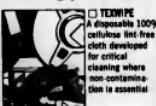
Jerusalem Confab, Ifip '71 Near

JERUSALEM — International computer shows continue to grow, and during the coming economic difficulties of the U.S. next week is "Computer Week in Israel," as declared by the International Computer Committee of the Jerusalem Economic Conference. Aside from business meetings concerning the nation's computer development, especially in software, the Jerusalem Conference on Information Technology will take place Aug. 16-19.

The first two days of this Conference will be devoted to technical sessions, which will highlight papers by addresses by Dr. Benjamin Shavit, chief of the United Nations' New Technologies Section. The final two days will consist of panel discussions.

Several of the attendees of the Jerusalem conference are expected to go on to "Ifip '71," the congress and exhibition of the International Federation for Information Processing. The triennial affair is in Ljubljana, Yugoslavia, Aug. 23-28.

SEND FOR FREE SAMPLES of these cleaning products for computer reliability



CHECK BOXES FOR FREE SAMPLES:

Name _____

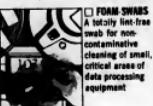
Title _____

Company _____

Address _____

City _____ State _____ Zip _____

The TEXWIPE Company, Hillsdale, New Jersey 07642



COMPLETE CATALOG

This catalog describes the complete line of Texwippe cleaning products for computer reliability.

G

Users Urge FCC To Block AT&T Tariff

By Ronald A. Frank
CW Technical News Editor

WASHINGTON, D.C. — AT&T's proposed interconnection requirements for voice-grade private lines has met strong opposition.

More than six organizations have told the Federal Communications Commission the latest Bell tariff filing [CW, July 28] should not go into effect as scheduled on August 15 but should be suspended pending further investigation.

In a letter to the FCC to reject the AT&T plan, the Computer Time Sharing Services Section (CTSS) of Adapco said, "The introduction of new [interconnection] devices on these lines appears unreasonable."

"AT&T has introduced no studies or evidence relating to the effect of these protective

devices on the quality of service," CTSS said. The filing said AT&T had refused to disclose "any substantial information about the technical nature of these devices."

Communications

It described this as "most frightening to a user, and added that the [proposed] connecting device may well cause technical problems with users' equipment."

A petition from the recently-formed Independent Data Communications Manufacturers Association Inc. (IDCMA) said the new effects of the interconnection plan would be to make telephone lines not interchangeable.

The FCC's Common Carrier Bureau staff is currently considering the AT&T proposal.

The tariff will take effect as scheduled unless the commission votes to suspend the AT&T plan.

Between Bell and non-Bell data sets.

In a similar filing the Bunker Ramo Corp. told the FCC that the interconnection plan constitutes an unwarranted and unlawful presumption of harm to all customer-provided data equipment.

Other organizations that opposed the AT&T tariff revision included Microwave Communications Inc., Western Union, the Utilities Telecommunications Council, the Computer Peripheral Manufacturers Association, and the Business Equipment Manufacturers Association.

The FCC's Common Carrier Bureau staff is currently considering the AT&T proposal.

Rochester NPD Unit Said to Necessitate Certification Program

By a CW Staff Writer

ALBANY, N.Y. — The simplified interconnection device proposed by Rochester Telephone Corp. would not provide effective network protection without a program of data certification, according to the New York Public Service Commission (PSC).

As described at recent hearings on the proposed interconnection tariff filed with the PSC by Rochester Telephone, the Network Protective Device (NPD) does not regulate network control signaling.

It is designed only to provide protection against excessive current, voltage, and signal levels at data sites that have customer-owned and maintained (Coam) equipment, according to the PSC staff.

If the interconnection plan is approved by the PSC, Rochester Telephone will have to rely on the mandatory protection of Coam devices "to safeguard the telephone network against improper control signaling," according to Richard Hesser, PSC rate analyst.

Although the NPD is not completely risk free, its protection features markedly exceed those of standard station protection appended by Rochester Telephone and other phone companies, Hesser told the PSC hearing.

Current Bell System Data Access Arrangement (DAA) devices are superior to the proposed Rochester Telephone NPD unit, according to John L. Wheeler, of Xerox Corp.'s Rochester division. Bell DAA's allow data users to interconnect devices that generate network control signals without the need for equipment certification, Wheeler said.

The comparison between the Bell DAA and Rochester's proposed NPD may result in testimony from the New York Telephone Co. representing the Bell System at the hearings.

If the interconnection tariff is approved, Rochester Telephone should offer both Bell DAA and the NPD connecting devices, Hesser said, with the choice being left to the customer. But the NPD would require equipment certification, he said.

Rochester Telephone should "prepare formal procedures for the certification" of Coam data equipment, Hesser suggested.

Asked to discuss the proposed interconnection rates filed by Rochester Telephone, Hesser said, "We are not treating the interconnected customer differently from the noninterconnected customer." Previous witnesses at the hearings have said the Rochester plan would cost Coam subscribers more than comparable DAA rates available from Bell.

The hearings are scheduled to continue August 17 in Albany.

CTC Has Wideband Multiplexer

NEW YORK — Computer Transmission Corp. has introduced a Multiran multiplexer specifically designed to take advantage of recent tariff changes [CW, Aug. 4] for wideband data users.

An outgrowth of earlier models in the Multiran series, the wideband unit is said to handle any available data transmission rate in addition to being able to intermix varying bit speeds.

The wideband Multiran unit was introduced at the Bankers Trust credit authorization center here as being one of the first user sites to employ multiplexing techniques under changes to FCC tariff 260 that took effect July 25.

The bank processes credit inquiries over a 50 kbit/sec wideband line which connects IBM 2741 and Four Phase Systems 70 CRTs with a 360/65 located five miles from the authorization center. The Multiran unit operates with Bell 303 data rates.

Although an exact model designation for the wideband Multiran unit was not available (CTC is working on an all-encompassing numbering scheme), a spokesman said the device is priced from \$3,500 for a three-channel capability up to \$15,000. Available options include synchronous and asynchronous interface capability and compatibility with the CTC Optran infrared transmission system.

CTC is at 1508 Cotter Ave., Los Angeles, 90025.



TERMINAL CLEARANCE SALE

We have available for sale the entire excess terminal inventory of several companies. As a result we offer the following equipment for sale at substantial discounts:

- Teletype Model 35's
- Teletype Model 37's
- Teletype Inktronics
- Acoustic Couplers
- Hard Wired Modems
- Datapoint 3300's
- Dura 1051's

These units are new or reconditioned and carry an unconditional warranty. These units will be available only while quantities last.

TERMINAL EQUIPMENT EXCHANGE

1137 Frito Lay Tower
Dallas, Texas 75235
(214) 358-5194

DISTRIBUTORS WANTED ...

to market Cascade Data's fast-selling MODEL 80 Computer in important market areas.

Software Houses, Terminal Marketers and Service Bureaus will find this low-priced, stand-alone computer easy to sell to present customers and general market prospects.



CASCADE 80

FEATURES Tape & Disk . . . 8K to 65K . . . RPG & BAL . . . Matrix & Line Printers . . . Operating system . . . card or optical mark input.

Good list of satisfied customers plus national backing by APECO CORPORATION make the Cascade 80 an easy seller. Servicing arrangements available.

Inquiries invited to discuss Cascade's profits-oriented package for distributors.

FRANK T. MASI
V.P. MARKETING
CASCADE DATA COMPUTER SYSTEMS, INC.
3000 KRAFT AVE., S.E.
GRAND RAPIDS, MICH. 49508

Computerworld's Sales Offices

West - Sales

Neil Wilder

Sales Administrator:

Dorothy Tracy

COMPUTERWORLD

797 Washington Street

Newton, Mass. 02160

(617) 332-6606

New England Regional Manager

Robert Ziegler

COMPUTERWORLD

797 Washington Street

Newton, Mass. 02160

(617) 332-6606

Mid. Atlantic Regional Manager

Donald E. Fagan

COMPUTERWORLD

220 West 39th Street

Basis 1511

New York, N.Y. 10001

(212) 564-5644

Midwest - Sales

Neil Wilder

COMPUTERWORLD

Suite 21B

25 East Chestnut Street

Chicago, Illinois 60611

(312) 944-5665

Los Angeles Area:

Bob Byrne

Sherwood/Byrne/Clearkson

& Associates

1541 W. Belmont Blvd.

Los Angeles, Calif. 90024

(213) 477-4206

San Francisco Area:

Bill Hooley

Thompson/Hooley Assoc.

1111 Hearst Blvd.

San Francisco, Calif. 94103

(415) 362-8547

Japan:

Mr. Naoyoshi Ando

Fuji Corporation

3-1, 5-Chome Yoyogi

Shibuya-Ku

Tokyo, Japan

COMPUTERWORLD

Work Output Gets Boost From 'Epic' And Century 100

BELLEVILLE, N.J. — If you want more than 60 minutes of production out of an hour of labor, the Edison Tool & Manufacturing Co. Inc. here can tell you how.

Through the use of an NCR Century 100 and a specially developed control program, the firm expects to double the hourly output at most of its 22 work locations.

Edison Tool is a precision metal fabricator which makes cabinets and covers for electronic and communications suppliers. The stepped up production is an outgrowth of Epic (Edison Pert for Interval Control), which was designed to manufacture separate components at proper dates so all simultaneously fit together. The minimum time to meet customer requirements is three days.

With each metal assembly averaging 20 major and 20 minor components and the number of jobs at any one time ranging from 200 to 250, Epic, a computerized system, tracks Century 100 maintains the status of each order and establishes and monitors the loads of work stations.

With the computer maintaining a running account on stocks and production schedules for each job, it prints daily load for each station for the next two to three days work dated according to priority.

When all components have been completed, assembled and painted, the computer prints the necessary box tags and manifests. Every two to three times a week the computer prints customer bills, updates the accounts receivable file and accumulates the various sales information and commissions for future analysis and distribution.

POSITION ANNOUNCEMENTS

MARKETING REP

Caribbean based data production company seeks state-wide marketing representation. High Commission.

P.A. Hydrus Co.
P.O. Box 13771
Santurce, Puerto Rico

MANAGEMENT/SALES

SALES V.P. — Large Core Storage systems

CHIEF ENGINEER — Management consulting systems, N.Y. area

MANAGER — Systems, \$100,000

REGIONAL MANAGER — CRT displays and systems, Chicago

\$27,000

DISTRICT MANAGER — Large memory systems, \$20,000

\$20,000

SALES REPRESENTATIVE — Personal computer systems, Philadelphia, Boston, N.Y. area

\$17,000

DATA ENTRY SYSTEMS, Dallas, Port

Orchard Park, N.Y., Atlanta, Fla.,

Detroit, Phila., Houston, others

\$14,000

DESIGN ENGINEER — Com

puter based Data Communi-

cations

\$15,000

SALES SUPPORT/APPLICATIONS

Data Entry, \$14,000

Num. Control, \$15,000

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

Mike Brum, Pres., BAI

899 Northern Boulevard

Great Neck, N.Y. 11831

(516) 468-3368

Call or write now 101

<p

Tape-to-Tape Data Link Smooths Cigar Orders

Special to Computerworld
NEW YORK — Consolidated Cigar Corp. now has a smoother, more efficient distribution system with its recently installed order entry system.

Using on-line mag tape transmission of customer order information, the system links Consolidated's headquarters here with its firm in Fort Wayne, Ind., distribution center with a communications link.

The key equipment involved in the system is a Burroughs B 5500 installed in New York which is used with Burroughs N 7000 Magnetic Tape Encoders.

Here is how the system works:

- Customer orders are keyed to magnetic tape on the N 7000.
- The resulting tape is used as high speed input to the B 5500 which processes the customer orders.

- Shipping data from the process orders is written out on magnetic tape which is then transmitted over telephone lines by the N 7000 at the home office to another N 7000 at Fort Wayne. The data received is printed on a high speed line printer.

These printouts give the distribution center information which tells what cigars to pick from storage; details the quantities and sizes to be shipped on each order, and notes the routing for each shipment.

According to a Consolidated Cigar spokesman, the combination of the N 7000 systems along with the location of the Fort Wayne distribution center has decreased the cigar distribution order cycle time by five to seven days.

Consolidated's Manager of Systems and Programming, George Rey, said, "We're a bit concerned about how to change stored information on tape when we first went to data encoders. Under the old punched card system, we had to punch a new

card to change information — not very fast and fairly costly. Shortly thereafter, we developed a record conversion program, which allows us to change all fields of information by simply requesting the record number and column number. Changing information on tape now proves to be much faster and less expensive than on the card system." Rey concluded.

Frank Klubersperger, Consoli-

Applications

dated Cigar's data processing manager, said that the mag tape to mag tape link assures the fast and consistent transmission of shipping information to the warehouse point.

Previously the packing, shipping and billing instructions were subject to delays in receiving plants and warehouses by mail.

Buy Sell Swap

FOR SALE

IBM 6420 Accounting Machine
6422 Automatic Ledger
6426 Printing Card Punch
6425 Mag. Ledger Feed
6428 Card Reader
Maintenance Agreement assured. Contact Mr. Cooper (201) 328-5253.

FOR SALE OR LEASE BY OWNER

Reasonably Priced IBM 360/50 H (256K)
2 Channels Available Oct. 1971
Call or Write: (314) 474-5776
H.E. Goetzmann
C.I.S. Corp.
700 East Water Street
Syracuse, New York 13210

BUY - SELL - LEASE

ALL TYPES COMPUTER HARDWARE

COMPUTER SALES, INC.
2807 NW Expressway
Executive Tower, Suite 100
Oklahoma City, Okla. 73112
(405) 848-4781
Bill McCollum

IBM SALE

Accounting Machine 6420
Magnetic Ledger Unit 6425

State Finance Co.
P.O. Box 230
Salem, Oregon 97308
(503) 363-3151, Ext. 38

COMPUTER SAVINGS

BUY SELL LEASE

DES 9

DATA EQUIPMENT & SUPPLIES INC.

4621 Concord
Garland, Texas 75042
214-272-7581

WANTED

1443 Printer Model II

Selective Type Bar Feature.
Other Desirable Features.

Print Storage

Computer Business
d/o Mailard & Schmidell
P.O. Box 7616
San Francisco, Calif. 94120
(415) 332-9500

WANTED TO BUY ALL MODELS AND 360'S COMPONENTS

CC
Corporate Computers Inc.
420 Lexington Ave.
New York, N.Y. 10017
(212) 532-1200

FOR SALE

VERTICLE TUB FILES

Call: Computer Inc.
1680 Riverdale Road
West Springfield, Mass. 01089
(413) 737-1950
Dan Bach

FOR SALE OR LEASE BY OWNER

Sale or Lease
16K 1401 Tape Disk System
16K 1401 System
7330 Tape Drives
16K 1440 System
80K 7080 System

ACS Equipment Corporation
1300 E. 10th St.
Austin, Tex. 78701
(512) 444-4370

FOR SALE OR LEASE

IBM 1410, 1401, 7090
7094/7 and 7094/8 Systems
16K 729 and 7330 Tape Drives
and Telex (729 compat.)
Tape Drives

THE BALANCE CORPORATION
1347 Commercial Avenue
Middletown, Ohio 45042
(513) 424-1697

1x2 Sound like arithmetic to you? It's not. It's a new computer for ad that's 1 column wide and 2 inches deep. A one-time ad this size costs only \$56. Lineage and frequency displayed with reduced insertion cost. And for one-year term, pre-paid classified ads, the per-insertion cost can be reduced even more. Think that an ad this size is too small to be noticed? You're reading this one, aren't you?

DATA ADVERTISING SERVICES
4850 Cedar Road
Dallas, Texas 75247
(214) 837-6570

Burroughs L5000 Computer

Style L5112679
New, Used Less Than 60 Working Days Will Deliver Free

To Your Anywhere

Thomas Industries Inc.
Thomas Buildings
Worthington, Ohio 43065
(614) 865-7158 J.A. DeVenne

MAI

Goes for brokers

Call us for

2311
729
2100

Bob MacNeil
(215) 527-3051

Mike Brody
(212) 557-3742

360/40GF [191K]

FOR SALE OR LEASE

360/40GF [191K] CPU, 2 S.C., available for sale or lease. November delivery. Four 2401-4 tapes and 2803-2 controller also available.

IPS INFORMATION PROCESSING SYSTEMS, INC.
(201) 871-4200
467 Sylvan Avenue
Englewood Cliffs, N.J. 07632

TAPE DRIVES For Sale

Qty.	Type	Mod.	\$
4	2401	3	\$
2	2402	3	\$
11	7330	1	\$
8	729	2/5	\$
1	CTC Leasing Corp.		\$
121 E. Industry Ct.			\$
Dear Park, N.Y.			\$
(516) 836-3500			\$

OAS FOR SALE ON IBM, M.A.

2540 1403 1021 7330 729
360 320 255 25K Systems
1401 Systems, 2311 2841
024, 026, 082, 083, 402, 407
Call or Write

DATA ADVERTISING SERVICES

4850 Cedar Road

Dallas, Texas 75247

(214) 837-6570

Systems For Sale

1401 - 16K
1440 - 5K
7074 - 30K
Want To Buy
1311 Dixie
1412 Mic Border

CAC

1401 - 16K
1440 - 5K
7074 - 30K
Want To Buy
1311 Dixie
1412 Mic Border

BUY AND SELL

IBM unit record
IBM computers
NCR 31 - 32 - 33 - etc.
BURROUGHS all models

MARION
403 BROADWAY ST., N.Y. 10013
(212) 966-5631

BUY-SELL-LEASE

All Types
IBM Computers
&
Unit Record
THOMAS COMPUTER CORPORATION
625 N. Michigan, Suite 500
Chicago, Ill. 60611
(312) 944-1401

360/50 (256K)

FOR LEASE

Peripherals Available if Required and Attractive Rate for Short Term Agreement Call or Write: Dan Galembo
Data Systems
Marin Morris Corp.
Hampton Plaza,
Baltimore, Maryland 21204
(301) 233-1600

DATA SYSTEMS & SERVICES, INC.

LARGEST BROKER DEALER IN THE NORTHWEST

BUYING, LEASING & SELLING
WANTED
H 200 Series Computer
318 2nd Ave. West
Seattle, Washington 98119
206 - 285-0330

BUYING SELLING LEASING SUB - LEASING

COMPUTER DISCOUNT CORP.
2200 E. DEVON AVE
DE S PLAINES, ILL. 60016
(312) 297-3244

SELLING YOUR IBM 360

All models and components wanted. Top cash paid for overseas. Free Appraisal.

ABLE COMPUTER INC.
625 Bard Ave.
Staten Island, N.Y. 10310
212-273-3721

WHEN is a computer terminal "smart" enough to be considered intelligent?

WHAT kinds of intelligent terminals are there?

WHICH companies seem to be breaking ground in this new product area?

FIND OUT about "The Gray Sheet" call the fastest growing equipment sector in the computer industry. Single copies, \$5. Or, 24 issues for \$75, including the annual review and forecast.

EDP Industry report

Department P-17
60 Austin Street
Newtonville, Mass. 02160
617-969-4020

CFI
FOR SALE

2 - 2401 - 2's - \$14,000 es.
192/256K 40 Core \$132,000
2050 I - Short Term Lease
2050 II
IBM 514

To Purchase
32K 30 Core

COMPUTER FINANCIAL, INC.
Please contact Gary Granberry
1432 Alles St.,
Anaheim, Calif. 92805
(714) 776-8571

ONE TIME ONLY!
DRC SALE

024 - 026 - 029 - 031
- 047 - 056 - 059
- 066 - 068 - 077 - 082
- 083 - 084 - 085
- 087 - 088 - 402 - 403
- 407 - 514 - 519
521 - 522 - 548 - 552
- 557 - 602 - 604

BROKERS AND DEALERS ARE WELCOME!

Call or Write
DATA TRONIC RENTAL
CORPORATION
5210 Wesley Terrace
Chicago, Illinois 60656
(312) 992-0760

**Time
for
Sale****OHIO****DATA CENTER
TIME**

All Shifts and Weekends
Best Rates in Midwest
360-30, 45, 4-2311, 4-2402M2
- Work Anytime -
Call: Jim Jones
216-981-9180
COMPUTER
MANAGEMENT, INC.
Cleveland, Ohio 44115

TEXAS**HOUSTON****Computer Time**

360/50 - 384K
360/40 - 256K
OS (MVT) & DOS
Oxitental Petroleum
1665 S.W. Freeway
Houston, Texas 77027
(713) 623-2600 EX. 406

NEW YORK

COMPUTER TIME AVAILABLE
We are Brokers for IBM, RCA, etc.
LOW RATES
COMPUTER RESERVES
393 Seventh Ave., NYC 7935

SYSTEM 3, 360-20

Time
Card and Program
Conversions
Keypunching
Anchor Systems Inc.
1727 Broadway, New York
(212) 947-1630

TIME FOR SALE**NEW YORK****360/65 1024k****OS/MVT:**

- Remote Job Entry
- Batch
- 4 2314's
- 15 Tape Drives
- SMF or Elapsed Time Rates

FOR A BENCHMARK
AND THE USER'S GUIDE,
CONTACT:

Ted Saber or
Jack West

EPG COMPUTER SERVICES,
INC.
346 Park Avenue
NYC 10022
(212) 486-9000

ILLINOIS

**NEW REDUCED
360 RATES!
360/30 USERS**

370/195
512x, 2314, 2701
10 2401, 4-2311, 4-2402M2
0/5 or 005
Weekdays .. 8 am - 8 pm \$ 60/hr.
Weekends .. \$ 110/hr.
12 hr. blks .. \$ 110/hr.
weekend .. \$ 150/hr.
\$ 80/hr.

360/40
8 2401's m3 (800-1600)
Weekdays .. \$ 55/hr.
Weekends .. \$ 90/hr.
12 hr. blks .. \$ 55/hr.
weekend .. \$ 90/hr.

360/40/20/
Both 844, disk and tape
Weekdays .. \$ 40/hr.
Weekends .. \$ 60/hr.

For information call or write:
RON ELLIS (312) 822-5141

DATA RESEARCH
141 W. Jackson
Blvd.
Chicago, Ill. 60604

TIME FOR SALE**MASSACHUSETTS****Why Fight Traffic!!**

- 15 Min. to Rt. 128
- 5 Min. to Mass. Pike
- Jct. Rt. 495 & Rt. 9
- On-Site Parking

360/40: \$100-\$80 per hr.

192K, DOS, OS/MVT,
7 Tape, 4 Disk, 1 Printer

360/50: \$150-\$125 per hr.

512K, OS/MVT, 8 Tape
8 Disk, 2 Printers

2nd & 3rd Shifts & Weekends

Call Bill King
(617) 366-9011

Ext. 2488 - 8 AM-4 PM

Special Rates Negotiable**NEW JERSEY****360/50****OS-MVT****\$81/hour**

Delivery Available
Call Ray Albert -

809-452-7877

NYC: 431-9027

PHILA: 923-3441

PTTS, Inc.

U.S. Hwy. No. 1

Princeton, N.J.

360/50/40/30

65 to 256K

ALL SHIFTS**& WEEKENDS****OCR SERVICES**

1287 1288

SERVICES**PROGRAMMING****FACILITY SUPPORT**

CALL: Roy Einreinhofer
Popular Services, Inc.

(201) 471-2677

**Software
for Sale****AREAS II****ACCOUNTS RECEIVABLE**

1. Inventory Control
2. Advanced Credit
3. Management Reporting
4. Aging to 150 days
5. Fixed and Optional
6. Electronic Statements
7. Sales Analysis in Depth

For information call or write:

COMPUTER WARES, INC.

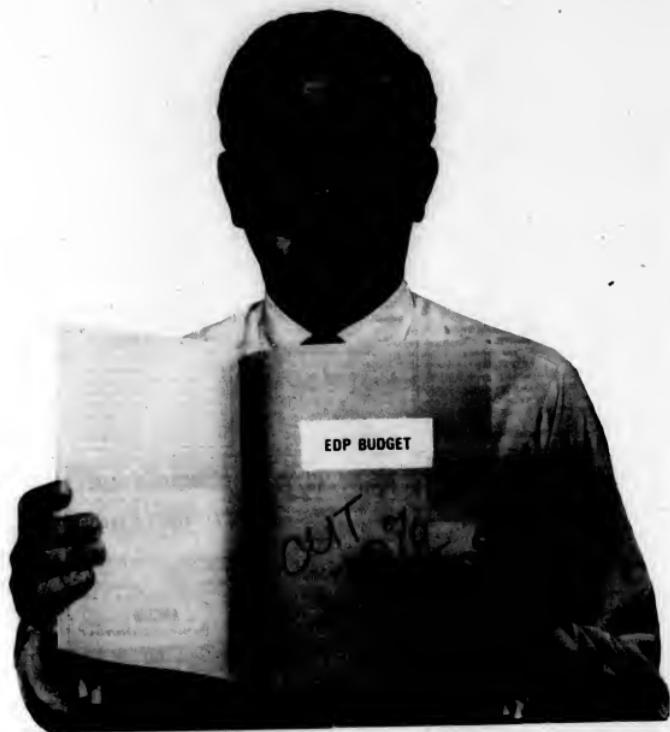
P.O. Box 31700, Ft. Lauderdale, Fla.

(305) 252-2722 - PHONE 205-595-9511

Multi-Company
GENERAL LEDGER
Inventory & Payroll
Financial Statement
Forecasting System

Box 822, Fort Lauderdale, Fla.

Box 822, Fort Lauderdale



Epoch 4:

**Because things are tough
all over.**

Budget cuts are just one indication of the general "tightening up" in EDP. Yet GMI's premium-priced Epoch 4 computer tape is still rolling up big sales gains.

What does that tell you?

Just this. The smart operators have learned that Epoch 4 returns more than it costs — in easily measurable increased performance.

Because Epoch 4 is 8000% tougher than the competition, you can actually cut tape expenditure by using this premium product. Our twenty-year warranty is just icing on the cake.

Sure, things are tough all over. But you can make it — if you get a tough tape going for you. And Epoch 4 is the toughest in the business.



**GRAHAM
MAGNETICS**

Graham, Texas 76046

computer industry

a Computerworld news section about the nation's fastest growing industry

August 11, 1971

Page 25

CI Notes

Sues New IBM Leases

MINEOLA, N.Y. — Potter Instruments and two of its subsidiaries here are suing IBM on antitrust grounds to void IBM's new fixed-term one- and two-year leasing agreements.

The complaint, filed in State Supreme Court, says the new options were adopted to restrain "growing competition," and are anti-competitive and monopolistic. With IBM's "standard denial" of the charges, IBM said since had "no reasonable basis."

Layoff at RCA CPU Plant

PALM BEACH GARDENS, Fla. — Citing "adjustments in production schedules," RCA has laid off 510 people at the local computer plant.

Effective Aug. 6, 400 assembly and test workers in the CPC facility were let go, and 110 more in administrative and support will leave Aug. 20.

Milestones for Memorex

SANTA CLARA, Calif. — The two-year-old Memorex Electronics Group has shipped its 10,000th disk drive, one year after shipping its 3660.

GE Looks to New Displays

OWENSBORO, Ky. — GE has stopped making CRTs for calculators and microscopes so it can explore the "greater immediate market potential" of vacuum fluorescent, alphanumeric tubes, liquid crystals, and high density matrix displays.

PEC Cuts Transport Prices

CHATSWORTH, Calif. — An across-the-board price reduction of up to 25% on incremental write tape transports has been announced by Peripheral Equipment Corp. There are eight different models available for automatic test equipment, data acquisition, and format conversion applications.

Boeing Markets Fla. Package

SEATTLE, Wash. — Boeing Computer Systems here has obtained a worldwide license to market a system of business programs devised by Computads Inc., of Hollywood, Fla. Known as Casil, the software for small- and medium-sized businesses uses IBM 360 computers.

Supershorts

About every 3-1/2 hours of every working day last year, IBM received some sort of patent. Its total of 556 was more than General Motors, but less than GE. A company spokesman said the "majority" related to DP, or to the manufacturing of DP equipment.

Since most people think of all DEC computers as minis, and since they all aren't minis, Digital Equipment Corp. has decided to change its public image of the PDP-10 and other large systems. Henceforth, they will be referred to as "DecSystem-10," etc.

The Viatron bankruptcy trustee goes to court Sept. 23, to "determine the insolvency" of the Bedford, Mass., company. R.R. Pepeo said he might recommend a new class or classes of stock.

Half, Quarter Reports Show...

Five Firms Finding Leasing Lucrative

By Edward J. Bride
CW Staff Writer

NEW YORK — Analysts looking for financial bright spots these days, take a gander at the "plus" signs on the earnings reports of some lessing companies.

In recent days, the following reports have been made public:

• Brooks International, Inc. — over \$200,000 profit after a loss last year.

• Bradford Computer Systems, Inc. — \$1.4 million profit for six months, up 50% from last year.

• Brennahan Computer Corp., earnings

for the third quarter — \$106,000 or more than double last year's period figure, and triple the previous year's.

• Diebold Computer Leasing, Inc. — \$1.5 million net income for six months, almost double last year's comparable period earnings, and exactly double the per-share earnings for the same period in 1970.

Lessing, Then Some

T.M. Brooks, president of the Texas company that bears his name, said profit improvement was caused by increased

revenues from lessing and decreased operational expenses, plus "our newly acquired enterprise," which includes electrical contracting and heavy equipment manufacturing. Fiscal year earnings were \$201,306, amortizing (and then some) Brooks' previous year's loss of more than \$190,000.

Bradford, located here on Broadway, reported income of 27 cents a share for the six months ended June 30, or revenues of \$6.6 million. In 1970, for the same period, revenues were \$2.2 million less with per share earnings for the half of 18 cents. Quarterly revenues and earnings were up proportionately.

In Chicago, Brennahan announced third quarter earnings of 6 cents a share, trebling last year's period earnings. The \$106,000 profit for the third quarter was based on revenues of \$1.3 million, while last year's third-quarter income of \$50,000 was based on higher income, nearly \$1.5 million.

First Half — Doubled

Back in New York, or actually at headquarters across the Hudson in Saddle Brook, N.J., Diebold president John J. Graham announced first-half earnings of 42 cents per share, double that for the same period last year.

He attributed the earnings growth to a continuing receptive climate for the company's leasing activities, a lower prime rate, high utilization of its portfolio of DP equipment at profitable rates, and earning from expanding operations in Europe.

Diebold, a computer portfolio was also credited for an undisclosed portion of Booth Computer Corp.'s record earnings, which were up 33% over the comparable six-month period during 1970.

Net income was \$1.8 million on revenues of \$32.5 million this year, against net of \$1.35 million on revenues of about \$21 million for the same period in 1970.

Cards Stacked Against Betting

New York County legislature set up April 9.

Then it was noticed that the Commission's power and duties had not been defined and that was why, on May 14, the state Senate passed a bill to the Assembly. But the state commission said that it is not clear that the county commission "has any awareness of the details of the plan of operation previously submitted by U.S. Data in itself."

U.S. Data had other problems, too.

According to a report prepared by U.S. Data to its customers closely those at Belmont and Aqueduct racetracks were labeled "infeasible" by the New York Racing Association, which runs the tracks.

Further, numbers games are "entirely outside the scope of the law," the report said.

The State Commission was particularly concerned that participating counties would have virtually no control over U.S. Data. Officials would have "limited, if any, access" to the data center, the report said. "The only semblance of public or other supervision of the corporation . . . is a nonexistent 'public benefit corporation,'" it said.

IBM Price Change Analysis

Sales, Near-Term Profit Aided by Boost

By Michael Merritt
CW Staff Writer

The July price increases of IBM are attempts to hyp short-term profits while maintaining long-term profits — a neat trick if it can be done.

The essential price changes are a 4% increase in 360 CPU-rentals and a 20% increase on their maintenance, plus an 8% increase in rental and purchase rates on 370 CPUs. The 6% rental and purchase increase on S/3 Mod 10, and the readjustment — mostly upwards — of maintenance rates on a number of pieces of peripheral gear should not have much impact on short-term IBM sales.

In the short term, it may well provide just the shot in the arm IBM needs. Although increased rentals will provide a marginal increase in income at best, outright sales are the best and surest way to increase earnings, especially if the partially or completely amortized 360s are being sold.

An increase in leases on peripheral gear, brought about by lower prices through the new fixed-terms, will lock users into IBM, since they are not likely to run a Honeywell or an RCA mainframe with IBM peripherals. Thus, the more

attractive lease arrangements help solidify that IBM "bank" of leasing customers.

After a good many users had signed up for a one- or two-year hitch, IBM then told them that CPU prices were going up. Users are going to have a varying saving of a few percent, so there probably won't be much resentment, even though the timing does seem contrived.

Short-Term Effects

For the next 12 to 24 months, then, IBM will profit from either increased and rock-steady 360 rentals or from fatter 370s. The 370s are 460s plus a series of double price, front-termination charges.

As for long-term growth, IBM is obviously pushing its plans on the 370. There is an obstacle here, though, since IBM is living off its existing customer base; the 370s are replacing the 360s, sometimes at a net loss of income for the giant.

If you have a captive customer base, however, and a series of hungry salesmen, have lowered prices substantially only two months previous, and have not raised prices for several inflationary years, you can probably push the 370 without too much trouble.

If you sell the 360s you replace, you

eventually end up ahead.

For the really long term, over two years out, there is no indication yet of any IBM plan, other than trusting the economy will improve, making conditions better for pushing the more profitable 370s.

IBM is still relying on the 360 "bank," increased 370 rentals indicate that. But the need to bolster profits immediately has forced IBM to add another bow to its quiver, and become more flexible in the face of adversity.

Are You Ready? IBM?

This is 1971; there's still a recession. IBM salesmen are running at 10% to 12% of quota, according to some rumors, and the Colossus couldn't come up with a quarterly increase in profit in its latest statement — the first time since the purchase bulge of 360s from the leasing companies skewed the curves in 1969.

Chairman T.V. Larson even predicted poor showings for the rest of 1971 [CW, July 21].

Attributing the price boosts to increased business costs, IBM is not unreasonable in adjusting for inflation. Where, how and when the adjustment took place is another story.

ADR Cites 80% Lease Renewals

PRINCETON, N.J. — Applied Data Research, Inc. said recently that 80% of the leases of its proprietary documentation program have been renewed.

Named Autofiler, the patented program is in use in more than 1,600 DP installations. The program was sold initially to help programmers debug and document computer programs.

Newly discovered uses for the program, ADR said, have accounted for the high renewals. The company is preparing an Autofiler handbook for describing other uses of the system, including system and program design, coding and desk checking, education, maintenance and conversion.

Available to first-time users on a three-year basis, leases are renewed annually thereafter. Under contract agreements, new features and enhancements are furnished to customers.

U.S. Market Guide Lists Data Firms

By a CW Staff Writer

WASHINGTON, D.C. — A guide to non-technical sources of information in the business machines industry, with special emphasis on EDP, has been compiled by a branch of the U.S. Department of Commerce.

Commerce is making the directory available for 50 cents a copy. The Business Machine Market Information Services Directory contains references to information sources in the Department of Commerce, the U.S. foreign trade, media, professional organizations, market research reports, and production and trade statistics.

The directory was prepared by the Bureau of Domestic Commerce, business and scientific equipment division. Copies may be obtained from Sales and Distribution, NTIS, U.S. Department of Commerce, 20230.

Metric Conversion?

Change Can Help Industry

CW Washington Bureau

WASHINGTON, D.C. — The computer industry could well reap a financial bonanza if Congress approves a recommendation by the National Institute of Commerce for a systematic, nationally coordinated U.S. changeover to the metric system of measurement over a 10-year period.

According to the 198-page report, "A Metric America: A Decade Whence," the changes recommended to Congress, computers have already reduced drastically much of the drudgery that would be involved in translating one measurement language to another.

'Change in Program'

"Numerically controlled machine tools ... are guided by a kind of computer program. Guidance to metric

dimensions needs only a change in the program."

According to Daniel V. De Simone, metric sales director and author of the report, computers "will do much to ease the change" to the metric system.

The report is the result of three years of studies, surveys and analyses by the National Bureau of Standards, a unit of Commerce. Congress had requested the study in 1968.

Few Opposed

In coming up with the report, the input of thousands of individuals and scores of professional organizations and groups was evaluated; there were relatively few negative responses.

The Department of Defense did say that "computer programs for data systems will have to be revised. For example, tactical data systems operating an entity will require simultaneous conversion of all units, unless they are to retain their usefulness."

The Business Equipment Manufacturers Association said its members "are concerned about the present multi-dimensional environmental problem which would prefer a single system of units of measure."

Acquisitions

Systems Engineering Laboratories, Inc., Ft. Lauderdale, Fla., has finalized the agreement reached with National Microelectronics Inc., W. Hurley, N.Y., regarding the sale of its control system products division. San Diego-based disk memory subsidiary to an employee group. The new name of the unit will be Pacific Microtronics Inc.

Executive Data Systems has acquired General Systems, Inc., Livingston, N.J., from Management Data Corp., Philadelphia. Gamut provides facilities management and other services to hospitals.

Motor Corp., Valley Forge, Pa., has purchased the Scan Systems and Quick Punch Divisions of Scanforms, Inc. Scan Systems provides DP services; Quick Punch offers keypunch services.

United Data Centers has acquired Nashville Computer Services, Inc. for an undisclosed amount of cash.

Central Data Systems has completed the acquisition of Pittsburgh Computer Co.

Computer Care, Inc. and Systems Corp. has purchased the National Institute of Computer Professions for \$75,000 from Delta Automated Systems. The institute teaches computer programming to English and Spanish speaking students. Delta will retain the Spanish portion.

Electro-Data Inc. and Care Electronics Inc., Huntsville, Ala., have reached an agreement under which newly formed subsidiary will acquire "substantially all" of the assets and liabilities of Care, subject to approval by Care stockholders.

Information Interscience Inc. (3I) has agreed in principle to acquire Information Co. of America (ICA) for an undisclosed amount of stock.

Wingate Computing Center, Providence, R.I., has agreed to purchase the East Hartford, Conn., data center plant of Travcom, Inc., headquartered in Cincinnati, Ohio. Wingate will be designated as Travcom's marketing agent in the New England area for its on-line DP service.

Broadcast Systems Inc. has acquired the Broadcast Computer Services Division of Wolverine Broadcasting Corp. BCS provides a proprietary software system to radio stations and networks.

360 CORE YOU CAN TRUST

MODELS 30+, 40+, 50+, 65+



From Fabri-Tek:
Leader in memory technology
for over a decade.

FABRI-TEK INC.
MEMORY PRODUCTS DIVISION
Leader in Memory Technology For Over A Decade.



The Bookie



There's a new bookie in town. 1,150 of them to be exact.

They don't wear green eye-shades, dark glasses, striped shirts — or smoke fat cigars.

Instead, they are sleek CRT display terminals.

Wyle Computerterminals®

These new bookies are legal, too. Part of New York's off-track-betting system, which has taken the big city by storm.

Why was Wyle awarded a \$2.5 million contract in this exciting new

industry by the system's prime contractor, Computer Sciences Corporation?

Because this off-track-betting contract was a tough interfacing job. With an even tougher delivery schedule. We met that schedule.

And why not? Wyle started supplying Computerterminals for reservations and ticketing back in 1967. We've built more CRT terminals than most. Our serial numbers are in the thousands. That's experience!

And our parent company, Wyle Laboratories, with \$90,000,000 annual sales and assets in excess of \$60 million, gives us the financial muscle to get the job done.

By the way, we also have a low cost, direct replacement for IBM 2260/2848 CRT clusters—which can be interfaced to any other make of computer as well.

So, if you are building a special computer or communications system and need CRT displays, call on us.

Or, if you are a computer mainframe manufacturer and require stand alone or cluster CRT display terminals, that's us again.

No wonder we're getting known as the silent partner of the computer industry.

WYLE COMPUTER PRODUCTS, INC.
128 Maryland St., El Segundo, Ca. 90245 (213) 678-4251

Peter Denning joined ACM for technical information and contacts.

Now he's involving other members in everything from microprogramming to data banks and privacy.

Peter Denning, 29, is an Assistant Professor of Electrical Engineering at Princeton. He's also an ACM member and chairman of our committee on special interest groups and committees (SIGs/SICs). He wasn't always as active in ACM.

"I joined in 1965 while working on my thesis," says Peter. "Mainly for technical material and a chance to meet other computer professionals. In 1968, I was asked to edit the Operating Systems (SIGOPS) newsletter. I got involved and quickly

took on more responsibility. After two leadership positions, I ran for SIG/SIC chairman."

"Special interest groups are what ACM is all about," says Peter. "We've got 27 now, from microprogramming techniques to the impact of computers on society. One out of three ACM members belong to at least one group. I want this share to grow."

"Now I can do something about it. Like help restructure the whole SIG/SIC operation. Some groups may

Association for Computing Machinery
1133 Avenue of the Americas
New York, New York 10036

I would like to consider joining ACM.
Please send more information.

Name _____

Position _____

Address _____

City _____ State _____ Zip _____

have to be split up, to cover less ground. Others need stronger leadership. A few we should have don't even exist yet, like performance evaluation and computer architecture."

Peter Denning is involved in ACM, the oldest and most respected association in the computer field. He's advancing his career. Sharing his ideas. And making a contribution to the computer profession.

Look into joining ACM. Fill out and mail the coupon today.

acm

Association
for Computing
Machinery

Switching, Not Fighting

Japan Wins in Unbundling

By Bohdan O. Scapovick
Special to Computerworld

MANILA, Philippines — June 14 was IBM Unbundling Day here. System/3 installations and all new products, including the 360, will now be unbundled. Installed 360 systems will be available to present users under existing conditions until 1973, when all IBM systems will be unbundled.

But this IBM move has not upset the Philippine users very much, because new and interesting bundled opportunities are appearing on the scene, due primarily to a very aggressive Japanese effort to penetrate the market.

In fact, this appears to be the first country where the Japanese have scored significantly while competing with long-established American manufacturers.

Some computer users tried for some time to get IBM to allow shift-time averaging over several months, in determining the final rental for their systems.

Their pleas went without success as far as IBM goes so they turned to those manufacturers who allow unlimited shift times, free reprogramming and availability of higher language compilers such as Cobol.

Spearheading the Japanese effort and providing all the goodies is Fujitsu Ltd. with its Facom line of business and scientific computing. There are now five known Facom installations in the Philippines, or close to 5% of all the installations in the country.

What is particularly significant is the speed with which the market penetration was done since Fujitsu installed its first machine only two years ago, and competes against U.S. manufacturers who have been selling here for more than 10 years.

Software support, better hardware and training are all plus factors from U.S. manufacturers. But the Japanese war reparations debt, coupled with recent monetary restrictions limiting dollar pur-

chases and the IBM unbundling announcement, literally give the market to the Japanese manufacturers.

The war reparations debt comes to about \$350 million, the Japanese must pay through 1975. The commercial deal, however, may take the form of direct grants, 20 year loans or shorter term loans at interest as low as 3%. The Japanese manufacturers, obviously with the fullest support of their all pervasive Miti (Ministry for International Trade and Industry) are taking advantage of the situation to introduce their computers as well as other equipment to the Philippine market.

A Facom 230-25 is replacing an IBM 1401 at the Bureau of Internal Revenue and the Philippine government also chose to install two Facom 230-25 systems as the core of the National Computer Center. These are shortly expected to be upgraded to Facom 230-35 systems.

Elsewhere, two other Facom 230-25 systems are installed at two leading insurance companies that originally did data processing on IBM equipment through their own service bureaus. The service bureaus, one of the largest operations in the country also is considered the largest in the world. They also operate in the Philippines and may become a representative agency for Fujitsu.

This suggestion is strengthened by the enthusiasm for the Fujitsu computer line by Frank A. Res, vice-president of Special Services Corp. He believes, to sell effectively, a manufacturer must have installed and working equipment in a country like the Philippines. American manufacturers fail to do that when they try to penetrate the market with a resulting poor share, he maintains.

While all Fujitsu machines are purchased, the users were offered all reprogramming from their previous systems, in most cases IBM 360. Fujitsu in fact brought its own programmers to Manila to complete the job on site.

THE UBIQUITOUS MINICOMPUTER . . .

Is it a . . .

Stand-alone computer?
Communications controller?
Process controller?
Monitoring device?
Smart terminal?
Souped-up calculator?

Or is it all these and more?



Computerworld's editors will examine the ubiquitous mini in their Minicomputer Supplement — coming in the August 25 issue. Advertising closing date is August 11.

If your company makes minis, mini peripherals, or mini software — or if you sell to mini makers or users — this Minicomputer Supplement is the opportunity to advertise in an exclusive mini marketplace.

You'll know that your ad is placed right because Computerworld readers are mini oriented and mini interested. A survey done this year showed that over 13,000 minis (half of all installed minis) are located at computer installation sites where the Data Processing Executive is a Computerworld subscriber — and they plan to buy another 14,000 by 1975.

To take advantage of this mini market, call:

Dorothy Travis

Computerworld

Telephone: (617) 332-5606

for space reservations, rates, and production information.
or call the Computerworld representative nearest you.

ATTENTION IBM 360 MODEL 22 CUSTOMERS REDUCE YOUR DATA PROCESSING COSTS 2311s AND 2841s AT AS LOW AS 50% OF IBM MONTHLY RENTAL

rates include prime shift maintenance
IMMEDIATE AVAILABILITY

We also lease 360 Models 30, 40, 50, and 65, 2401, 2803, 2804, 1403 N1, 2540, 2821, 2314

Call your nearest regional office for details

Atlanta	(404) 423-7231	New York	(201) 671-9125
Boston	(617) 266-4950	Pittsburgh	(402) 835-6699
Chicago	(312) 945-0180	San Francisco	(415) 397-1394
Detroit	(313) 642-4415	Washington, D.C.	(301) 825-2252
Los Angeles	(213) 345-3732		



BANKERS LEASING CORPORATION

(Subsidiary of Southern Pacific Co.)

1255 Boylston Street Boston, Massachusetts 02115 (617) CO 6-4950

A QUESTION FOR FINANCIAL ADMINISTRATORS

REGARDING THEIR MINI-COMPUTER INSTALLATIONS:

Can you ask the right questions of your vendor or DP personnel to assure accomplishment of your objectives within the budgeted constraints?

More and more the computer output is becoming under the direction of the chief financial officer of a company. More and more, irreversible decisions are the ultimate responsibility of this chief financial officer. More and more cross pollination of Finance and DP techniques is mandatory for successful career development. This you should already know!!

AB is commencing its Management Seminar of Workshops August 26th. It begins with an across-the-board exposure of in-depth computer principles from input devices to final report generation.

If you would like to benchmark a computer facility (to mean: benchmark your own performance in the eyes of others), then call or write us for more information.

Name _____ Title _____

Name of Company _____ Tel: _____

Address _____ Street _____

City, State, Zip _____

Andover Institute of Business — 90 Main Street — Andover, Mass. 01810

Tel: (617) 475-5151

**ATTENTION
MANUFACTURERS OF
COMPUTER PRODUCTS
FOR THE END USER**

Do you have a superior technical product and need top professional representation in the North East? Write to:

CW Box 5437
60 Austin Street
Newton, Mass. 02160

**FOR RENT
COMPUTER SPACE**

- Raised Floor
- Fully Air Conditioned
- General Office Area
- Key Punch Area
- 208 Volt 3 Phase Electricity
- Great Neck
- Manhasset Area

(516) 627-8700

FROM USER FOR SUB LEASE
360's

MISSISSIPPI STATE CENTRAL DATA PROCESSING AUTHORITY

Advertisement for Bid

Sealed proposals will be received by the State Central Data Processing Authority, 505 Robert Lee Building, Jackson, Mississippi 39202, up until 2:00 p.m., Monday, August 23, 1971, for the following data processing equipment:

Request for Proposal No. 48 — Lease of one (1) printing keypunch-verification machine with printer.

Desired project specifications may be obtained from the office of the State Central Data Processing Authority.

The State Central Data Processing Authority reserves the right to reject any and all bids and proposals and to waive informality.

STATE CENTRAL DATA PROCESSING AUTHORITY

Charles L. Guest
Executive Director

T - TEST FILE GENERATOR

- E** — Sequential or Indexed — Sequential
- S** — Variable Length Records
- T** — Tape, Disk, or Data Cell
- C** — Multiple Formats
- U** — Reduces Use of Live Files
- B** — Easy to Use
- E**

CONTACT: Ron Lauber,
COMPUTER SERVICES
CORPORATION
2325 Northwest
Southfield, Michigan 48075
313/444-6000



Our 140 automates all office systems and procedures

(For about half the cost (of other small systems.)

In just a few hours, our 140 office computer can start taking over general ledger, payroll, billing, inventory control, document revision typing, management information — everything.

The 140 replaces punched cards with modern cassettes for more efficient data capture and retrieval, combines fixed and removable discs for greater storage and easily expands into a mini-computer system.

If you'd like to learn more about how the Eldorado 140 can cut operating costs and help your business grow, contact Eldorado's marketing division for the name of your local Eldorado sales and service office.

For terminal access . . . Our model 125 is the ideal office problem solver: Off-line computer, remote batch terminal, interactive time-sharing terminal, and unattended computer terminal for automatic calling and answering.

ELDORADO

ELDORADO ELECTRODATA CORPORATION
601 Chapman Rd - Concord, Calif. 94520 • (415) 688-4900

All Not Bleak in Software Firms

By Edward J. Bride
CW Staff Writer

ROCKVILLE, Md. — All is not bleak in the software industry, according to three recent financial reports which nonetheless caution that the recession is not over, either.

Comshare, the developers of

marketers of Scent, Dynaprobe, and Amigos, announced the highest first half revenue and operating profit in its nine year history.

Informatics Inc., of Canyon Park, Colo., experienced another quarter profit, estimated by founder Walter F. Bauer to losses sustained at the Los Angeles data center, which has since been discontinued.

Applied Data Research, Inc. (ADR), developers of one of the most successful proprietary software packages, reported its net up to \$2.2 million, or 32 cents a share for the first half versus 37 cents last year.

At Comshare, Fred C. Ihres, president, said Scent, Dynaprobe and Amigos were the company's largest revenue producing units.

Ihres said, "The market segments we have reached the point where they too are contributing substantially to overall profitability."

Ihres anticipates "significant" deliveries of the computer monitor Dynaprobe during the third quarter, while Amigos (file access method replacing IBM software) has experienced a

quarterly growth rate of 100% since its introduction a year ago. Comshare revenue for the half was \$2.7 million, with net earnings of \$459,000. The company lost money for the same period last year.

At Informatics, the first quarter results showed net income of \$48,000, three cents per share, on revenues a little over \$5 million. Last year's totals were \$6,000, four cents per share, on \$4.7 million.

Contracts with the government and the General Foods Corp. plus continued success of the Mark IV File Management System, were also reported.

John R. Bennett, president of ADR, called his first-half results "disappointing" and added his company had initiated "a vigorous cost reduction program" so as to improve the operating posture for the balance of the year.

ADR lost \$310,062 on revenues of \$3,336,401. The net and revenue were better than last year, as ADR reported losses of \$354,330 on revenues of \$3,276,394.

Nickels & Dimes

Staggering quarterly results, relatively speaking, have been announced by Sterling Computer Systems, which operates DP centers in Texas, California, and Oklahoma. Net profit of \$77,651 was 4 cents

per share, about twice that for the same period last year, despite slightly lower revenues for 1971.

At Holdsworth, Holdsworth said increased orders for the first quarter just ended should result in an increase of both revenue and profits during the remainder of the year.

SSS

University Computing Co. and its facilities management subsidiary, Computer Technology Inc., operated profitably in both the second quarter and first half of 1971, after losses in the same period last year.

For UCC itself reported net income of \$1,645,000, or 22 cents per share, and \$3.1 million, or 42 cents per share, for the last quarter, and \$3.1 million, or 42 cents per share, for the half. President Charles J. Wyly, Jr., reiterated earlier predictions that UCC would be profitable for each quarter of 1971, and for the year as a whole.

SSS

Burroughs declared another quarterly dividend, a regular occurrence uninterrupted for the last 76 years. The 15 cent payout will be made Oct. 20 to shareholders of record Sept. 24.

SSS

Effective cost performance by EDP service and business forms manufacturing teams are sharing credit for higher profits at Reynolds & Reynolds Co., of Dayton.

SSS

Computer Investors Group, Inc., upped previous projections of about 20% revenue gains, saying IBM price increases could add at least an additional 5%. The company is engaged in marketing and financing computer equipment, primarily through leasing.



Computerworld Stock Trading Summary

CLOSING PRICES THURSDAY, AUGUST 5, 1971

All statistics
gathered, compiled
and furnished by
TRADE QUOTES, INC.
Cambridge, Mass. 02138

Earnings Reports

COMPUTER INVESTORS

Three Months Ended June 30

Shr End	68,19	8,14
Revenue	2,900,000	2,410,000
Spec Cred	b36,000	1,000

Earnings **+236,000** **205,824**

+Based on income before special credit. b-Based on repurchase of a portion of the company's debentures.

c-Equal to 21 cents per share.

d-For the year ended March 31.

1971 1970

Shr End	1971	1970
Revenue	145,995,000	155,205,000
Earnings	9,329,000	14,254,000

NETWORK DATA SYSTEMS

Year Ended March 31

1971 1970

Shr End	6,39	8,24
Revenue	1,740,000	1,650,000
Earnings	250,021	448,063

CLARY

Three Months Ended June 30

1971 1970

Shr Err	8,07
Earnings	8,233,000	82,544,000
(Loss)	95,000	(451,000)
Revenue	4,762,000	4,562,000
Spec Cred	b60,000
Earnings	(Loss)	(721,000)

+Based on income before special credit. b-Based on net sales of product

line and realization of future income

contracts. c-Equal to 63 cents a share.

d-For the year ended March 31.

1971 1970

BARRY WRIGHT	
Three Months Ended June 30		
1971	1970	
Shr Err	8,07
Earnings	6,336,638	7,450,000
Revenue	168,400	312,192
Spec Cred	b10,000
Revenue	13,32,991	15,09,029
Earnings	247,767	606,443

COMPUTER SCIENCES

Three Months Ended July 2

1971 1970

Shr Err	8,10	8,10
Revenue	29,80,000	26,713,000
Earnings	1,20,000	1,26,000

BURGESS

Three Months Ended June 30

1971 1970

Shr Err	8,51	8,51
Revenue	237,86,000	213,594,000
Earnings	16,994,000	16,617,000
Revenue	433,97,000	402,769,000
Earnings	27,771,000	25,325,000

+On a primary basis. b-Based on

income before special credits. c-Tex

Oil and Gas Inc. shares were split

in the quarter and \$1.12 a share for the 6

months. d-NI insurance proceeds and

TIC credits. e-Net earnings for the first

quarter were \$7 million and net earnings

were \$7 cents before the special

credit in 1971, compared with 66

cents in 1970.

1971 1970

SHAMONG ELECTRIC	
Six Months Ended June 30		
1971	1970	
Shr Err	8,29	8,29

TALCOTT NATIONAL

Three Months Ended June 30

1971 1970

Shr Err	8,52	8,38
Revenue	1,952,000	1,549,000
Earnings	42,011,000	1,545,000
All Mkt Shr	b1,02	.72
Revenue	3,000,000	2,920,000

+On a primary basis. b-Based on

income before special credits. c-Tex

Oil and Gas Inc. shares were split

in the quarter and \$1.12 a share for the 6

months. d-NI insurance proceeds and

TIC credits. e-Net earnings for the first

quarter were \$7 million and net earnings

were \$7 cents before the special

credit in 1971, compared with 66

cents in 1970.

1971 1970

SANGAMO ELECTRIC	
Six Months Ended June 30		
1971	1970	
Shr Err	8,29	8,29

AMERICAN USED COMPUTER CORP FOR SALE

SANDERS 720 DISPLAY SYSTEMS

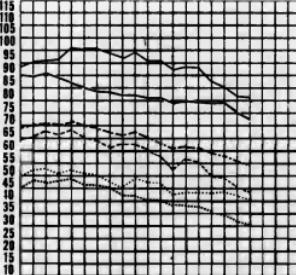
AVAILABLE NOW

Call 617-227-0834

15 School St., Boston, Mass.

Computer Stocks Trading Index

- Computer Systems
- Software & EDP Services
- Peripherals & Subsystems
- Leasing Companies
- Supplies & Accessories
- CW Composite Index



8 15 22 28 6 1320 27 3 17 24 1 8 15 22 28 5 12 18 28

APRIL MAY JUNE JULY AVE

BASED FOR EACH TRADING INDEX 6. 100% OF 3/1/70

1971 1970

Shr Err
 43,811,000 | 42,662,000 |
Earnings
 969,000 | 798,000 |

+Based on income before special credits. b-Based on

income before special credits. c-For the

year ended March 31, 1971.

d-For the year ended June 30, 1971.

e-For the year ended June 30, 1970.

f-For the year ended June 30, 1971.

g-For the year ended June 30, 1970.

h-For the year ended June 30, 1971.

i-For the year ended June 30, 1970.

j-For the year ended June 30, 1971.

k-For the year ended June 30, 1970.

l-For the year ended June 30, 1971.

m-For the year ended June 30, 1970.

n-For the year ended June 30, 1971.

o-For the year ended June 30, 1970.

p-For the year ended June 30, 1971.

q-For the year ended June 30, 1970.

r-For the year ended June 30, 1971.

s-For the year ended June 30, 1970.

t-For the year ended June 30, 1971.

u-For the year ended June 30, 1970.

v-For the year ended June 30, 1971.

w-For the year ended June 30, 1970.

x-For the year ended June 30, 1971.

y-For the year ended June 30, 1970.

z-For the year ended June 30, 1971.

aa-For the year ended June 30, 1970.

bb-For the year ended June 30, 1971.

cc-For the year ended June 30, 1970.

dd-For the year ended June 30, 1971.

ee-For the year ended June 30, 1970.

ff-For the year ended June 30, 1971.

gg-For the year ended June 30, 1970.

hh-For the year ended June 30, 1971.

ii-For the year ended June 30, 1970.

jj-For the year ended June 30, 1971.

kk-For the year ended June 30, 1970.

ll-For the year ended June 30, 1971.

mm-For the year ended June 30, 1970.

nn-For the year ended June 30, 1971.

oo-For the year ended June 30, 1970.

pp-For the year ended June 30, 1971.

qq-For the year ended June 30, 1970.

rr-For the year ended June 30, 1971.

ss-For the year ended June 30, 1970.

tt-For the year ended June 30, 1971.

uu-For the year ended June 30, 1970.

vv-For the year ended June 30, 1971.

ww-For the year ended June 30, 1970.

xx-For the year ended June 30, 1971.

yy-For the year ended June 30, 1970.

zz-For the year ended June 30, 1971.

aa-For the year ended June 30, 1970.

bb-For the year ended June 30, 1971.

cc-For the year ended June 30, 1970.

dd-For the year ended June 30, 1971.

ee-For the year ended June 30, 1970.

ff-For the year ended June 30, 1971.

gg-For the year ended June 30, 1970.

hh-For the year ended June 30, 1971.

ii-For the year ended June 30, 1970.

jj-For the year ended June 30, 1971.

kk-For the year ended June 30, 1970.

ll-For the year ended June 30, 1971.

mm-For the year ended June 30, 1970.

nn-For the year ended June 30, 1971.

oo-For the year ended June 30, 1970.

pp-For the year ended June 30, 1971.

qq-For the year ended June 30, 1970.

rr-For the year ended June 30, 1971.

ss-For the year ended June 30, 1970.

tt-For the year ended June 30, 1971.

uu-For the year ended June 30, 1970.

vv-For the year ended June 30, 1971.

ww-For the year ended June 30, 1970.

xx-For the year ended June 30, 1971.

yy-For the year ended June 30, 1970.

zz-For the year ended June 30, 1971.

aa-For the year ended June 30, 1970.

bb-For the year ended June 30, 1971.

cc-For the year ended June 30, 1970.

dd-For the year ended June 30, 1971.

ee-For the year ended June 30, 1970.

ff-For the year ended June 30, 1971.

gg-For the year ended June 30, 1970.

hh-For the year ended June 30, 1971.

ii-For the year ended June 30, 1970.

jj-For the year ended June 30, 1971.

kk-For the year ended June 30, 1970.

ll-For the year ended June 30, 1971.

mm-For the year ended June 30, 1970.

nn-For the year ended June 30, 1971.

oo-For the year ended June 30, 1970.

pp-For the year ended June 30, 1971.

qq-For the year ended June 30, 1970.

rr-For the year ended June 30, 1971.

uu-For the year ended June 30, 1970.

vv-For the year ended June 30, 1971.

ww-For the year ended June 30, 1970.

xx-For the year ended June 30, 1971.

yy-For the year ended June 30, 1970.

zz-For the year ended June 30, 1971.

aa-For the year ended June 30, 1970.

bb-For the year ended June 30, 1971.

cc-For the year ended June 30, 1970.

dd-For the year ended June 30, 1971.

ee-For the year ended June 30, 1970.

ff-For the year ended June 30, 1971.

gg-For the year ended June 30, 1970.

hh-For the year ended June 30, 1971.

ii-For the year ended June 30, 1970.

jj-For the year ended June 30, 1971.

kk-For the year ended June 30, 1970.

ll-For the year ended June 30, 1971.

mm-For the year ended June 30, 1970.

nn-For the year ended June 30, 1971.

oo-For the year ended June 30, 1970.

pp-For the year ended June 30, 1971.

qq-For the year ended June 30, 1970.

Introducing the newest scientific computer from **IBM.**



PI FORT turns any System 3 with 12K into a scientific computer. All that engineering you're now doing at a service bureau can now be done in-house at tremendous savings. Programmatics' ANSI FORTRAN is full-fledged, fast, does not require a disk and, most important, is available right now. (The poop says that IBM's FORTRAN for the System 3 will not be ready until late '72.) All this for only \$100 a month. Try it out for 30 days free. You'll see.



PROGRAMMATICS

a subsidiary of Applied Data Research
11661 San Vicente Blvd., Los Angeles, California 90049 (213) 826-6503

Programmatics, Inc.

11661 San Vicente Blvd., Los Angeles, Calif. 90049

I would like to take advantage of the 30 day free trial offer for PI FORT (System 3). Please send all necessary paperwork.

I would like further information including complete system description before taking advantage of the free trial offer.

Name _____

Title _____

Company _____

Address _____

City _____

State _____

Zip Code _____

Distributed in Europe by CAP France, Paris.